PRINTING EQUIPMENT *Engineer*

Volume 70 Number 3

A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.

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JUNE 1945

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STANDARD BOOK ON ESTIMATING for PRINTERS—By Fred W. Hoch. Revised 1941 edition. This book is a primer for students and a reference for printers and estimators. Every printing plant should have a copy. Author explains all operations in commercial printing plant and shows production time allowance for each in hours and decimal hours. Size, 6 in. by 9¼ in., 268 pages, $3.75 per copy, cash with order.

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PRINTING EQUIPMENT *Engineer*

1276 W. 3 St., Cleveland 13, Ohio

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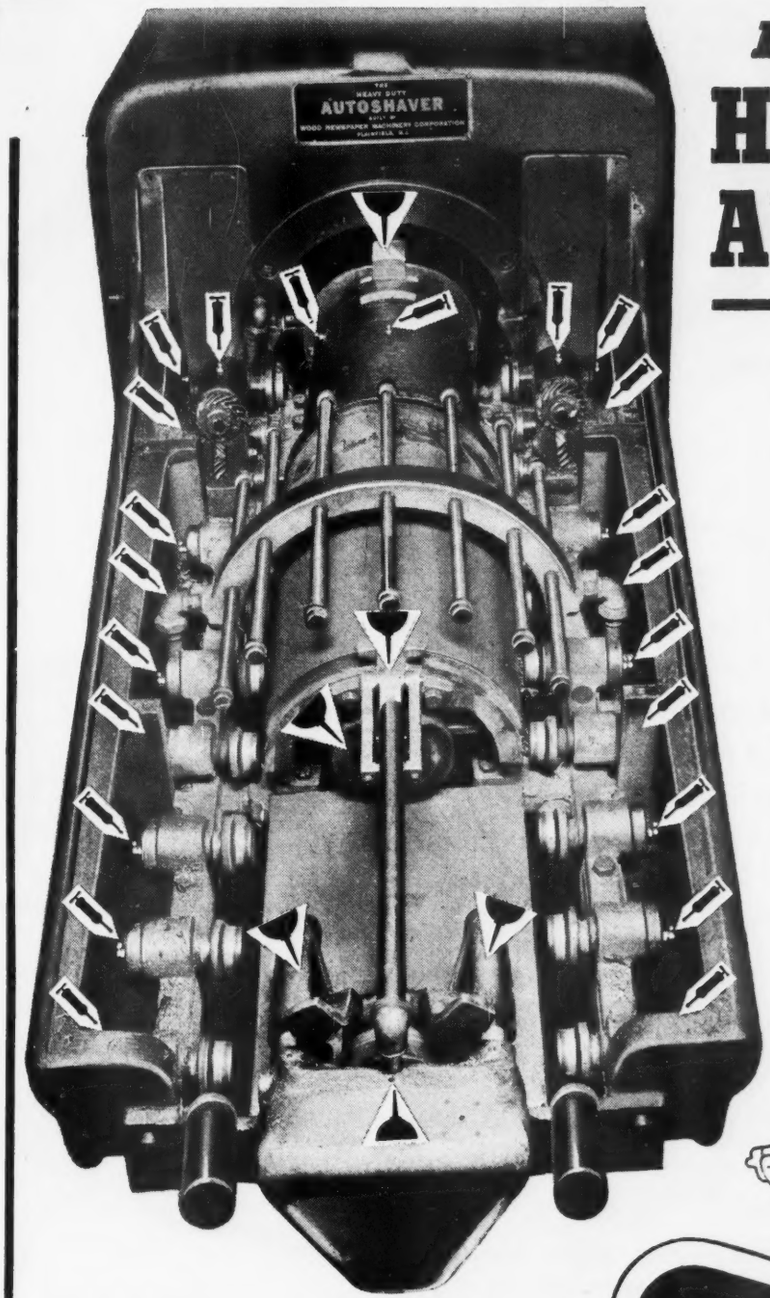
ROSS WHITEHEAD & CO., LTD.
MONTREAL, CANADA

War-Time Maintenance Suggestion



For Lubrication of
HEAVY DUTY AUTOSHAVER

Built for years of uninterrupted service, The Wood "Heavy Duty Autoshaver" will more than do its part if you will follow a few easy rules on lubrication. The procedure is simple and this small effort will repay you many times over.

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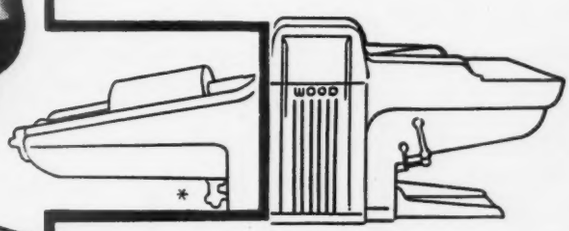
Indicates a Zerk fitting. The gun furnished with the Heavy Duty Autoshaver for this purpose should be used with a good grade of alemite. Lubrication period — *every six months.*

Indicates the use of ordinary oil can. Use *S.A.E. No. 30.* Period for oiling — *daily.*



***This is No. 1 of a series of 3 covering lubrication of the "Heavy Duty Autoshaver", and covers that part indicated in red box above.**

WOOD NEWSPAPER MACHINERY CORPORATION
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Wood NEWSPAPER MACHINERY

This is No. 30 in the Wood Series of Maintenance Hints. Reprints are available if your set is not complete

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BAR AND CLAMP (No-Slip)
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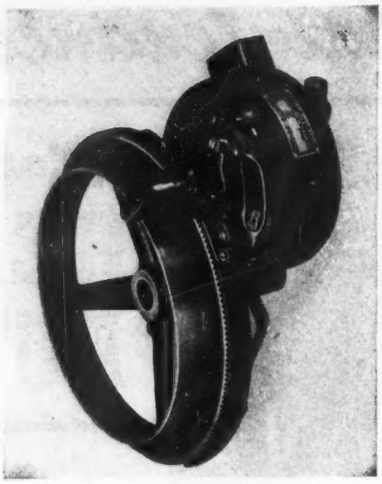
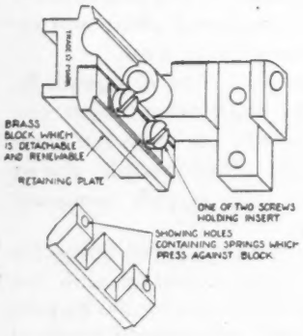


CUSHMAN OFFSET MOTOR

SECOND ELEVATOR STARTING SPRING
PART NO. B-238-A


BRASS BLOCK WHICH IS DETACHABLE AND RENEWABLE
RETAINING PLATE
ONE OF TWO SCREWS HOLDING INSERT
SHOWING HOLES CONTAINING SPRINGS WHICH PRESS AGAINST BLOCK

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DELIVERY SLIDE
LONG FINGER
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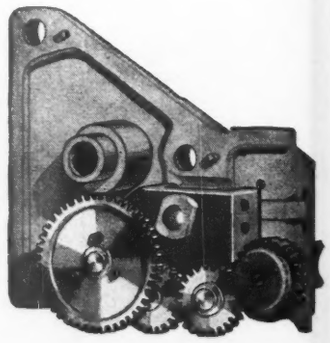

COOK ASSEMBLER UNIT
(SLOW AND INTERMEDIATE SPEED)
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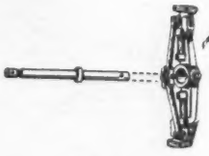

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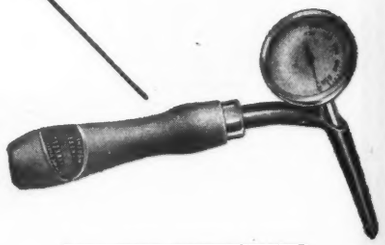

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An Acknowledgment

We, the builders of heavy newspaper printing machinery, appreciate highly the following statement made in the Annual Report of the Committee on Supplies of the American Newspaper Publishers Association:

"The war work done by manufacturers of heavy newspaper machinery is a credit to that industry and a source of pride to newspapers of the United States. Every manufacturer has been awarded the Army-Navy 'E' and many have had several stars added to their award."

WE ARE also grateful for the consideration extended us by the newspaper publishers of the United States and Canada, and their staffs, in the very difficult problem we have faced in servicing their press equipment during the war period to date. We have done the best we could under tremendously difficult conditions, but in many cases we have been unable, for reasons beyond our control, to meet their wishes, or our own standards of performance.

While some war restrictions are now being removed, all of us are still engaged in war work at practically full capacity. None of us know when partial or full Governmental release from this war work will come, or when we can get the necessary materials for peace-time work as the war pressure is relaxed. We would appreciate the continuance of the same patience and understanding, heretofore accorded us, for the remainder of the time we are engaged in this work, as well as during the difficult reconversion period thereafter.

THE DUPLEX PRINTING PRESS COMPANY
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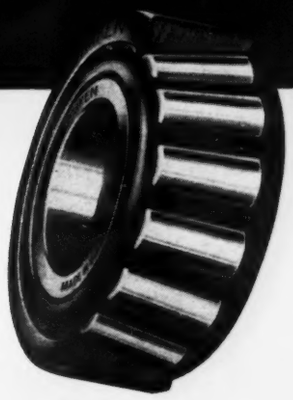

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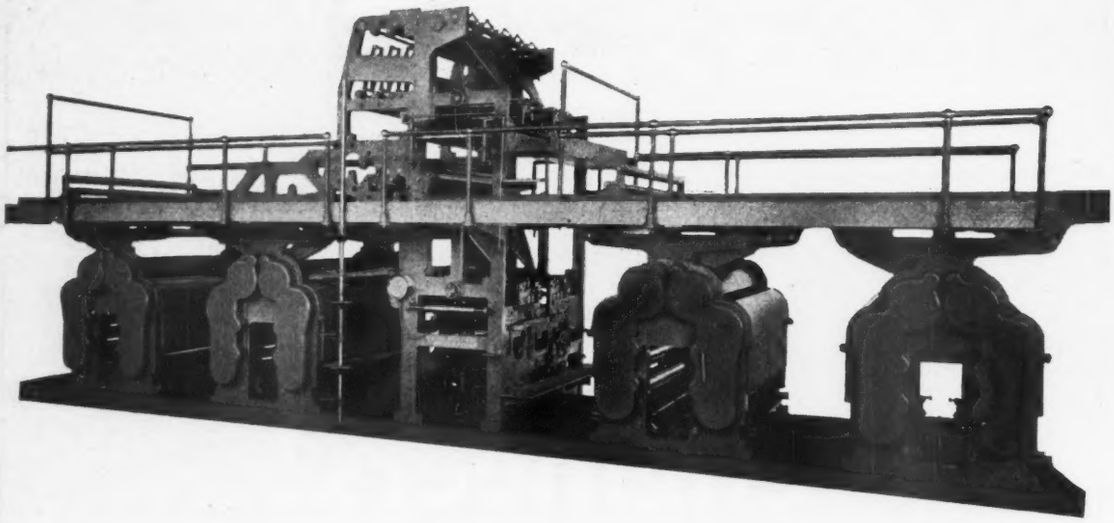

ALL MAIN horizontal and vertical driving shafts of the New Scott Newspaper Press make four turns for each printing cylinder revolution, instead of one or two turns as in previous newspaper press design. All these shafts are carried in amply over-size SKF precision ground high speed ball bearings.

This 4 to 1 ratio reduces the torsion stress on the shafts, the load per turn on the bearings and the load per tooth on the gears to ½ or ¼ of these same stresses as applied in the former construction.

This modern design permits shorter and stronger bearing supports and much less projection of driving parts from the press frames.

A Bulletin describing the New Scott Press will be gladly mailed on request.

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Are Set on the Monotype!

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The Little Chief Remelter is bottom-pour, self-feeding and designed to conform to the requirements of the New York City Health Board.

It can be operated in the Composing-room, if desired without discomfort. It is built for continuous operation and *with a potential remelting capacity of 2500 lbs. in an 8 hour day requiring about one hour of a man's time.*

FEATURES

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THERMOSTATIC CONTROL automatically regulates the heat.

JORDAN INTERNAL VALVE built into the pot with spillway through which overflow passes into the spout.

QUICK HEAT MUFFLER speeds melting by drawing heat through the body of the metal; prevents the escape of fumes into the room while the Remelter is in operation.

JACKETED INSULATION reduces fuel costs by conserving heat.

CONTINUOUS CASTING TROUGH speeds casting.

INTERNAL LIGHTING permits efficient skimming.

FLUXING APERTURE prevents getting burned from splashing hot metal while fluxing.

RECESSED DOOR—No fumes can escape into the room even when the door is open.

SQUARE DESIGN saves floor space and facilitates charging and skimming. Occupies 4 square feet.

FUEL—Gas (manufactured, natural or mixed). Electricity.

PRICES—Gas fired $595; Electrically heated $795 f.o.b. Brooklyn, N. Y.

ORDERS will be filled in the rotation of their receipt. We advise you to place your order now.

Write for our illustrated catalogue which contains operating information on the Little Chief Remelter, also data on the Big Chief Remelter, Twintype molds that cast the Slip-off ingot and the Jordan Feeder.

Direct Your Communication to Our Plant Nearest Your Location

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THE JORDAN CONTINUOUS — FEEDER —

A continuous self-actuating feeder that does not require chain adjusting when attaching a new ingot.

The ingots do not overlap—they are so spaced on the chain that they can not jam in the metal-pot.

The Jordan Feeder operates with an unvarying action which enables it to feed as fast or as slow as the metal level in the pot requires.

One ingot is always feeding. This eliminates the necessity of exact timing for attaching the next ingot —a feature which every operator and machinist will appreciate.

The Jordan Feeder operates with any type of hanging ingot.

★

When ordering Jordan Feeders state whether they are to be used on Linotypes, Intertypes, Monotypes, Ludlows or Elrods.

Made only by United American Metals Corp'n

$75

THERE ARE *No Ink Service* STATIONS *on Luzon*

The Story of the Army Engineers Mobile Topographic Units Is an Amazing Tribute to Yankee Ingenuity. Ink Research Helped to Make Them Work

If you are printing maps on Luzon, in bombed out Europe, in Burma, you cannot pick up the telephone and call an ink service station if something goes wrong on the press. That is why the inks used by the Army Engineer Corps Mobile Topographic Units must be as nearly foolproof as modern research and ink engineering can make them.

IPI makes no claim to helping to win the war because it supplies these inks to the Army—along with other ink manufacturers. However, because of IPI's unique research facilities, its scientific knowledge of ink chemistry and its extensive technical equipment, it was able to offer its services to the Army Engineers and to contribute significantly in setting up accurate standards and specifications.

Early in the war IPI representatives sat down with the Engineers Corps at Plattsburg and later at Ft. Belvoir to help work out the ink problems for the Army's mobile printing units—complete printing plants on wheels. Their objective was to print new maps every 24 hours showing changes in the combat areas, for an army moving at the rate of 500 square miles a day. In the field the mobile units move according to battle needs. A modern army uses printing in various forms, but most important are maps in large quantities.

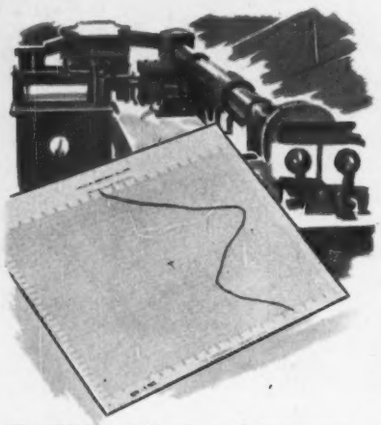
In combat operations, officers and soldiers alike must be thoroughly posted on operations. Up-to-the-minute maps are needed on incredibly short printing schedules during the height of combat. Offset lithography was chosen as a rapid method for reproduction and the Army mobile units are playing an important part in our wars.

The IPI approach to the problem was to recommend that, insofar as possible, the ink service problems should be worked out before the inks left the factory. We recommended that accurate color standards be set up and detailed specifications for the inks be written. At first there was some doubt that a specification could be written for ink. It was in this connection that the broad experi-

Maps—huge quantities—in 24 hrs. for an army moving at the rate of 500 square miles per day.

ence, scientific knowledge and equipment of IPI Laboratories, factories and technicians played an important part.

Control instruments in these Laboratories include the most modern developments, such as the GE Recording Spectrophotometer, RCA Electron Microscope, Infra-red Spectrograph and the IC Rotational Viscometer, the latter an exclusive development of Interchemical Corporation of which International Printing Ink is a division. IPI's pioneering for accurate color specifications had already resulted in the joint sponsorship by Interchemical and General Electric of the American Standards Association Specification and Description of Color, Z-44, June 14, 1942. Drawing on this experience, accurate color standards and detailed specifications for ink formulations were established. Inks made on these standards and specifications by IPI and other ink companies are as nearly foolproof as scientific research, human skill, and modern manufacturing equipment can make them.



The GE Recording Spectrophotometer can distinguish differences between millions of colors. The human eye can see only one hundred thousand.

In effect, IPI said to the Army Engineers: "Here are our research facilities. In our belief, they represent the most comprehensive equipment available anywhere for ink research and engineering. They are available for whatever use you want to make of them." The Army Engineers were quick to take advantage of these facilities. Color standards were set up according to Munsell notation as provided in the ASA Standards. Specifications for viscosity, tack, flow, yield value, temperature and other important characteristics were established. The temperature specification itself is interesting. Because the inks must perform in every known climatic condition from the equator to the poles, they must withstand a range from 40° F. below to 160° F. above zero.

The resultant specification, T-1608A, embodies all the necessary information and tests for making inks that will operate on an offset press far away from the normally convenient ink service station. From an air photograph to a well printed map, mobile units are producing highly satisfactory offset lithography in record time in every combat zone.

The RCA Electron Microscope gives a magnification fifty times greater than that of the strongest light microscope.

IPI TECHNICIANS IN THE ARMED SERVICE

IPI ink technicians are contributing their skill and knowledge in control locations where the programs for these mobile units are perfected. There are 60 IPI men scattered over the many combat zones in all branches of the service. From reports sent in by these men, the performance of the Army Engineers Corps mobile printing units is a tribute to every branch of the graphic arts industry which helped to make them possible. IPI is grateful for the many expressions of appreciation from officers in the service—letters which are restricted and which we cannot publish.

OTHER PROBLEMS—TECHNICAL AND TICKLISH

IPI ink engineering has been used on other products for the war. Marking inks for rockets that must not lose their identity as a result of weather conditions and exposure—food can marking inks—inks for duplicating machines and scores of other items, many confidential, which serve to illustrate the complex nature of modern warfare.

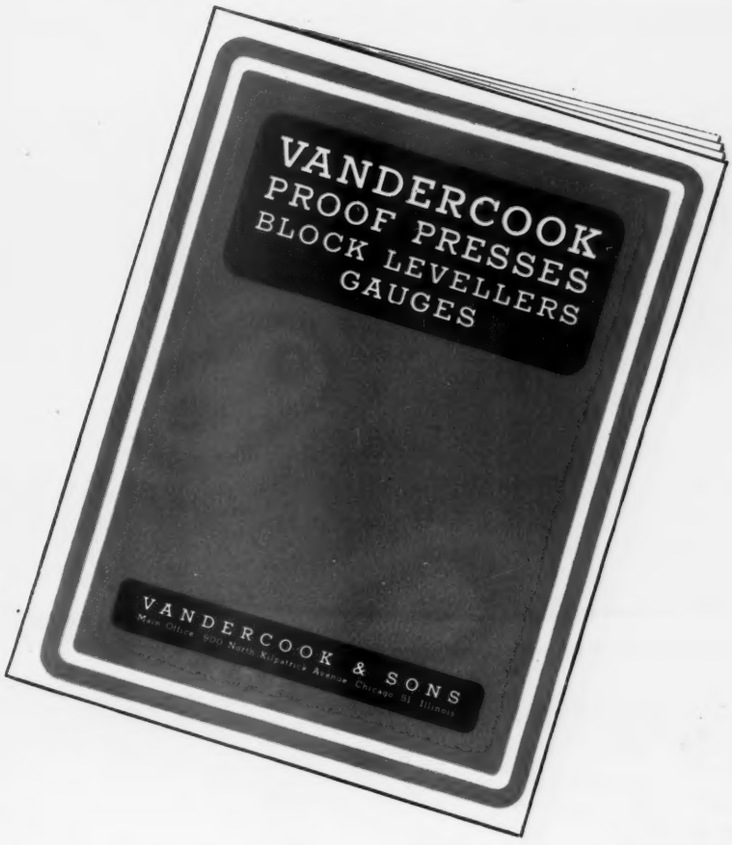
IPI LITHOGRAPHIC COLOR GUIDES

IPI has offset color guides, in letter-file and pocket sizes. The inks of which the guide shows specimens are entirely new, based upon scientific investigations made by the Research Laboratories of Interchemical and the Product Development Laboratories of IPI.

Copies of both letter-file and pocket sizes will be sent to you on request. Write to International Printing Ink, 350 Fifth Avenue, New York 1, N. Y.

IPI Offset Color Guides show 114 colors on offset, coated and bond stock, halftone blacks, process inks section, characteristics table and ASA Standards. Arrow points to typical ASA color specification, which reads as follows: Syan Green OE-120, 497.6, 27.1, 30.8, Munsell 1.5BG, 5.7, 8.8.

Let this Booklet Help You Decide



Many printers and publishers are planning to buy Vandercook Proof Presses, Block Levellers and Hacker Gauges for PREMAKEREADY as soon as available.

The selection of this equipment should be made carefully and based not only on requirements now but upon a careful study of anticipated business.

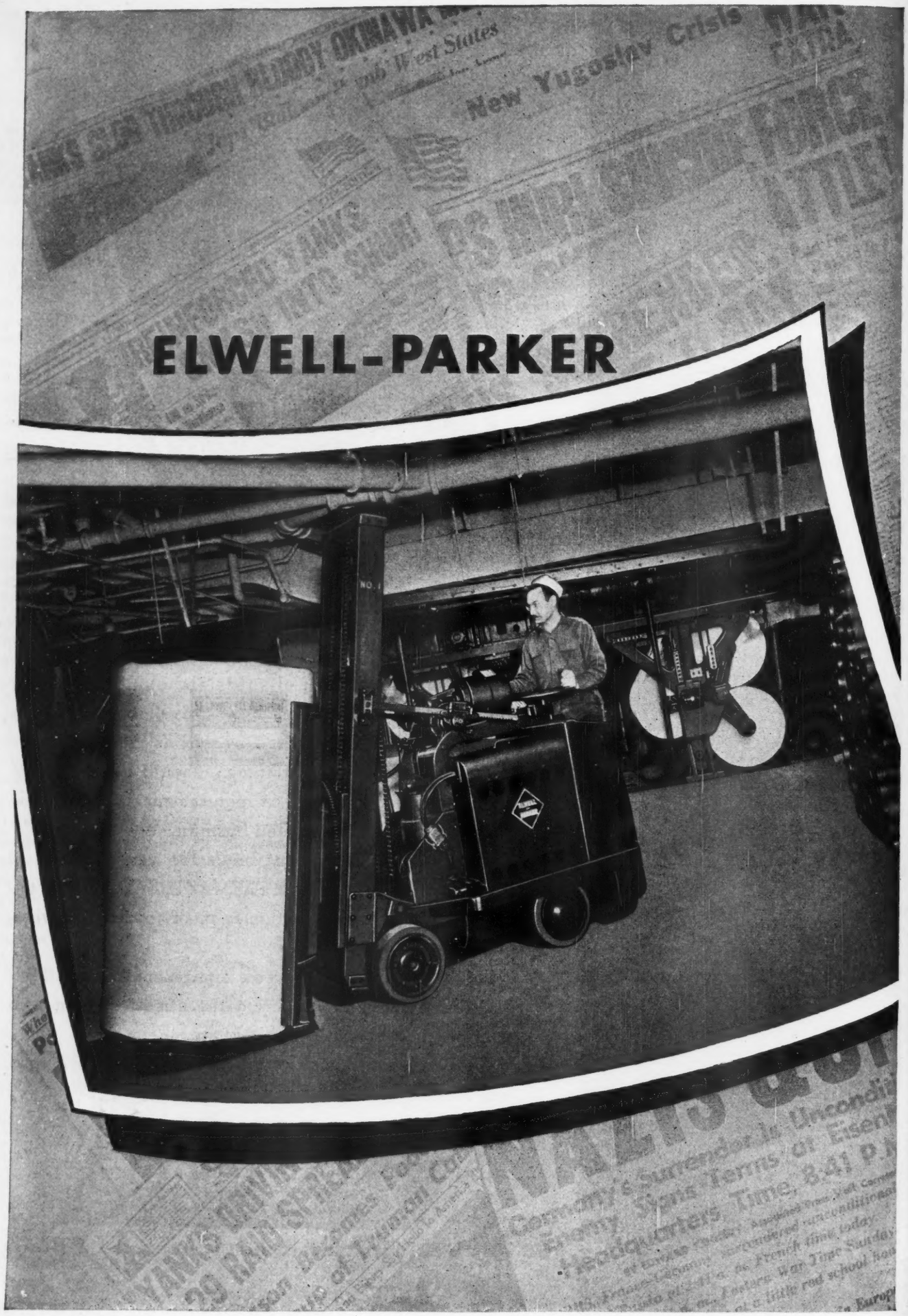
The Vandercook booklet briefs the various kinds of equipment for proving and PREMAKEREADY. It will enable you to make a selection to meet your needs, whatever your type of business.

You can order Vandercook equipment now for PREFERRED DELIVERY---insuring the utmost efficiency in your plant at the earliest possible moment.

The Vandercook booklet will give you the facts. A copy will be sent upon request.

VANDERCOOK
PROOF PRESSES · BLOCK LEVELLERS
PREMAKEREADY EQUIPMENT

VANDERCOOK & SONS. **900 North Kilpatrick Avenue, Chicago 51, Illinois**


ELWELL-PARKER

Greatest Power Behind "The Power of the Press"

TODAY'S greatest power is the Power of Economy. Electric Trucks by Elwell-Parker help you to put Economy to work. Transporting your newsprint on massive Elwell-Parker Roll-Handlers, tailored to match your pressroom or warehouse, means saving your money by:—

Picking up the biggest rolls your presses can take.

Transporting them all the way from box car or highway truck through storage to reel room, with no waste motion.

Preventing damage to precious newsprint. Careful handling by Elwell-Parker prevents injury by dropping or bumping the rolls.

Utilizing warehouse space. Elwell-Parker Truck rotates rolls 90 degrees, sets them in either vertical or horizontal position to fill available storage. In some instances the need for additional warehouse space has thus been eliminated.

Operating one-man crews—*with safety.* Elwell-Parker speeds heaviest rolls safely —eliminating accident hazards.

Big things ahead in color! Round out your new High-Speed Press Projects with Paper-Handling Systems to conserve your increased earnings. Call in the nearby Elwell-Parker Representative to help with your program. He has long experience and will gladly co-operate.

The Elwell-Parker Electric Co., 4517 St. Clair Avenue, Cleveland 14, Ohio.

DIAL THE EP MAN TODAY!

Albany	2-4095	Chicago	SUP 7420
Birmingham	3-3323	Cincinnati	MA 0650
Boston	COM 5522	Cleveland	MA 8915
Buffalo	GR 7664	Columbus	AD 4824
Charlotte	5026	Denver	KE 5500
Greenville	534	Detroit	MA 2233
Indianapolis	LI 3131	Ft. Worth	4-6184
Jacksonville	5-1384	Kansas City	VA 7021
Los Angeles	PR 5911	Memphis	8-1648
Milwaukee	MA 7817	Minneapolis	GE 3247
Montreal	HA 7191	New York	COR 7-0797
NewOrleans	MA 6316-C	Philadelphia	LOM 3710
Pittsburgh	AT 6734	St. Louis	LA 4545
San Antonio	TR 3653	San Francisco	GA 1827
Seattle	EL 5722	Syracuse	2-9596
Toronto	WA 1478		

ELWELL-PARKER

POWER INDUSTRIAL TRUCKS

Established 1893

Specify **"CLINE" . . . .**

PRESS DRIVES and CONTROLS

FOR ALTERNATING OR DIRECT CURRENT

REELS (Quick Acting Chucks and Margin Control)

For Any Size Paper Roll

WEB TENSIONS (The Only Tension Adjustable from Press Unit)

For Automatic Control of Paper Tension

HIGH SPEED PASTERS

(DO NOT CHANGE TENSION VALUE—LOW FIRST COST)

For Continuous High Speed Operation

Safe • *Simple* • *Reliable*

PLANTS WITH RECORD OF HIGHEST SPEED AND LARGEST EDITIONS USE CLINE EQUIPMENT

The Cline System Includes . . .

Unit Press Drive and Control
Double Motor Drive and Control
Magazine Type Single Motor Control
Special Color Press Control
Stereotype Motor Equipment
Cline Reels & Automatic Electric Tension
Cline High Speed Pasters
Paper Roll Conveyors
Plate Conveyors and Droppers
Typesetting Machine Drives

CLINE ELECTRIC MFG. CO.

Main Office: 211 W. Wacker Drive, Chicago 6, Ill.

Western Office:
Crocker First Nat'l Bank Bldg.
SAN FRANCISCO, CAL.

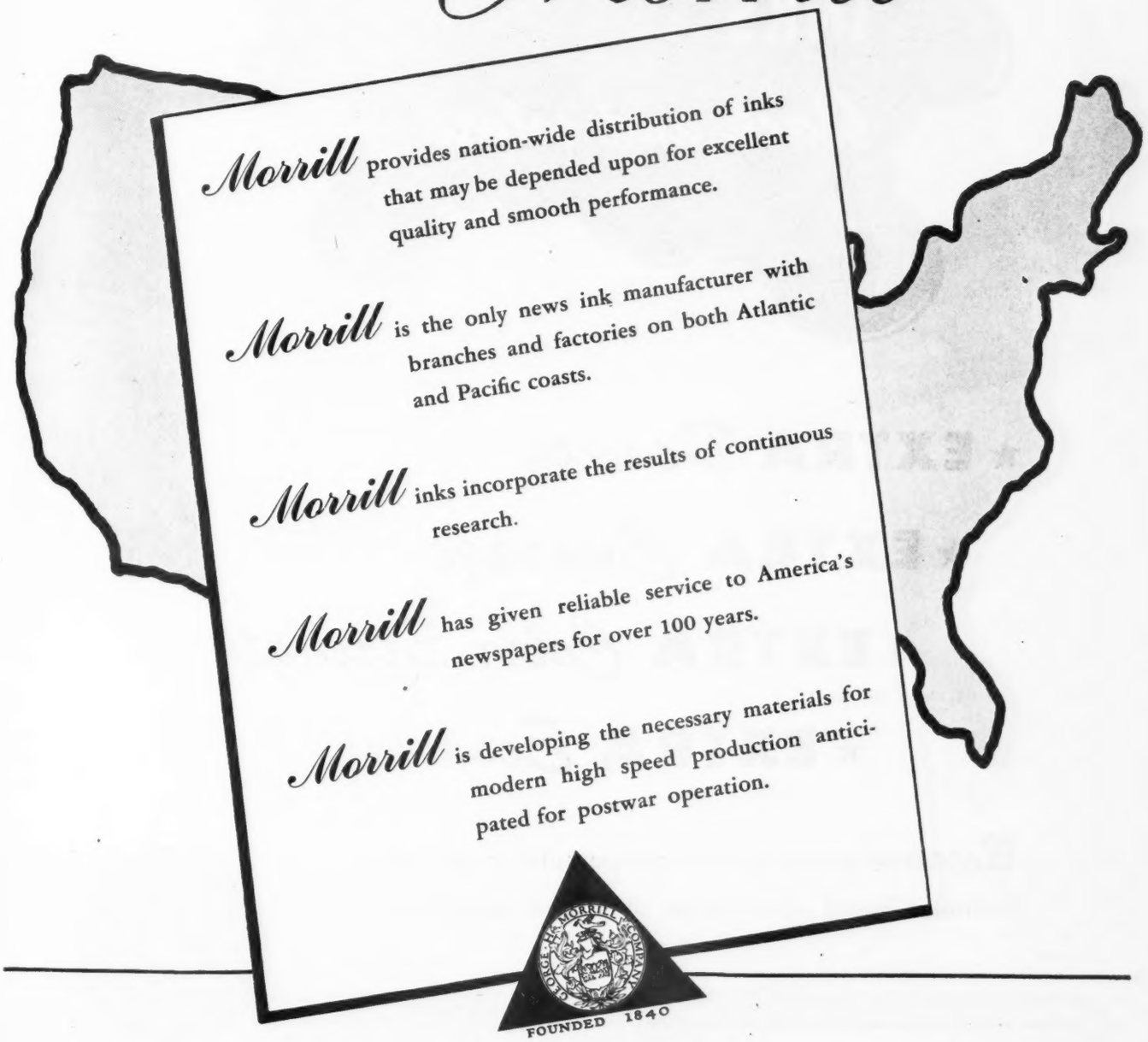
CLINE SYSTEM — CLINE ELECTRIC MFG. CO. CHICAGO — QUALITY NAME SERVICE PRICE — CLINE WESTINGHOUSE

Eastern Office:
220 East 42nd Street
NEW YORK CITY

Research

IS THE KEYNOTE AT

Morrill



Morrill provides nation-wide distribution of inks that may be depended upon for excellent quality and smooth performance.

Morrill is the only news ink manufacturer with branches and factories on both Atlantic and Pacific coasts.

Morrill inks incorporate the results of continuous research.

Morrill has given reliable service to America's newspapers for over 100 years.

Morrill is developing the necessary materials for modern high speed production anticipated for postwar operation.

FOUNDED 1840

GEO. H. MORRILL CO.

DIVISION • GENERAL PRINTING INK CORPORATION

100 SIXTH AVENUE • NEW YORK 13, N. Y.

Factories: Norwood, Mass. Chicago, Ill. Tacony, Philadelphia, Pa. San Francisco, Calif.

Branches: Boston Chicago Philadelphia Detroit St. Louis Fort Worth San Francisco St. Paul Los Angeles Seattle Toronto

★ **EXTRA** *Density*

★ **EXTRA** *Coverage*

★ **EXTRA** *Color Strength*

★ **EXTRA** *Economy*

Because **Herrick Inks are compounded to special formulas based upon actual pressroom conditions**

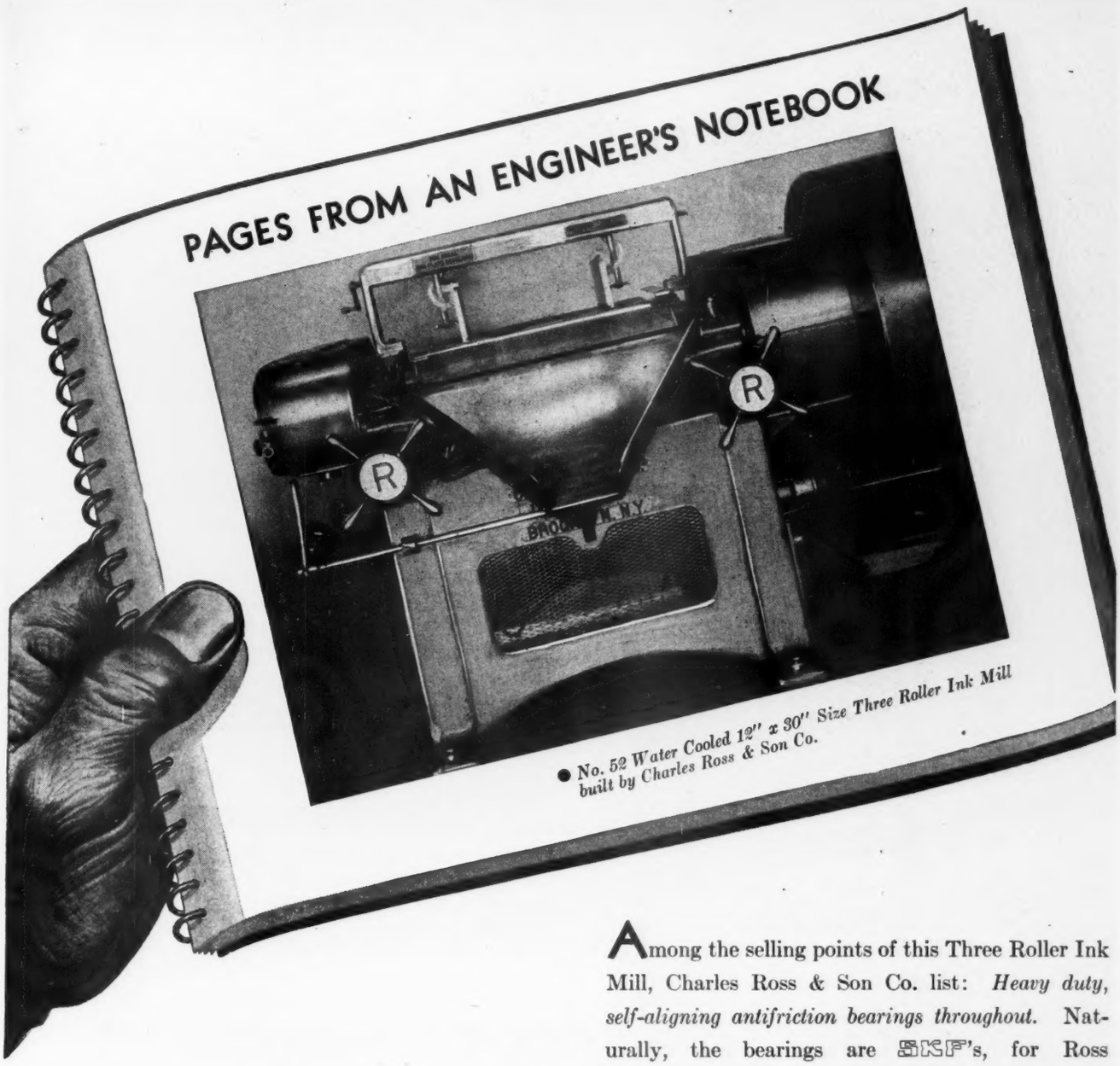
HERRICK *Inks*

8161

WILLIAM C. HERRICK INK CO., INC.

Office and Plant

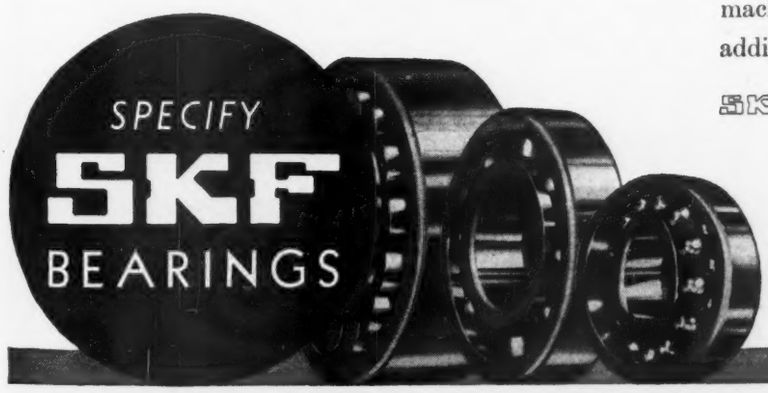
EAST RUTHERFORD **NEW JERSEY**



SELLING POINT: IT'S SKF-EQUIPPED

Among the selling points of this Three Roller Ink Mill, Charles Ross & Son Co. list: *Heavy duty, self-aligning antifriction bearings throughout.* Naturally, the bearings are SKF's, for Ross engineers demand rugged bearings that take it under heavy loads year after year . . . that allow for shaft deflections, distortions or weave without binding . . . that do not require adjustments and need only infrequent lubrication. To tell *your* prospect that he's considering an SKF-equipped machine is to tell him he's considering all the additional advantages of high quality bearings. 5837

SKF INDUSTRIES, INC., PHILA. 34, PA.



Research gave

Imperial

REGISTER-REDIBAK ZINC

these advantages

PIONEER PLASTIC ACID RESIST

Redibak, the pioneer plastic, ready-to-use, acid resist that comes at no extra cost on all Imperial zinc, was a product of our laboratory research.

OBJECTIONABLE STRETCH REMOVED

The removal of all objectionable stretch from Imperial Register-Redibak Zinc — making possible zinc color plates that register perfectly — had its inception in the Imperial Zinc Laboratory.

FREEDOM FROM "BUCKLING"

Imperial research solved the problem of a zinc soft enough to prevent "buckling" and hard enough to outwear ordinary zinc.

AN ALL-PURPOSE ZINC

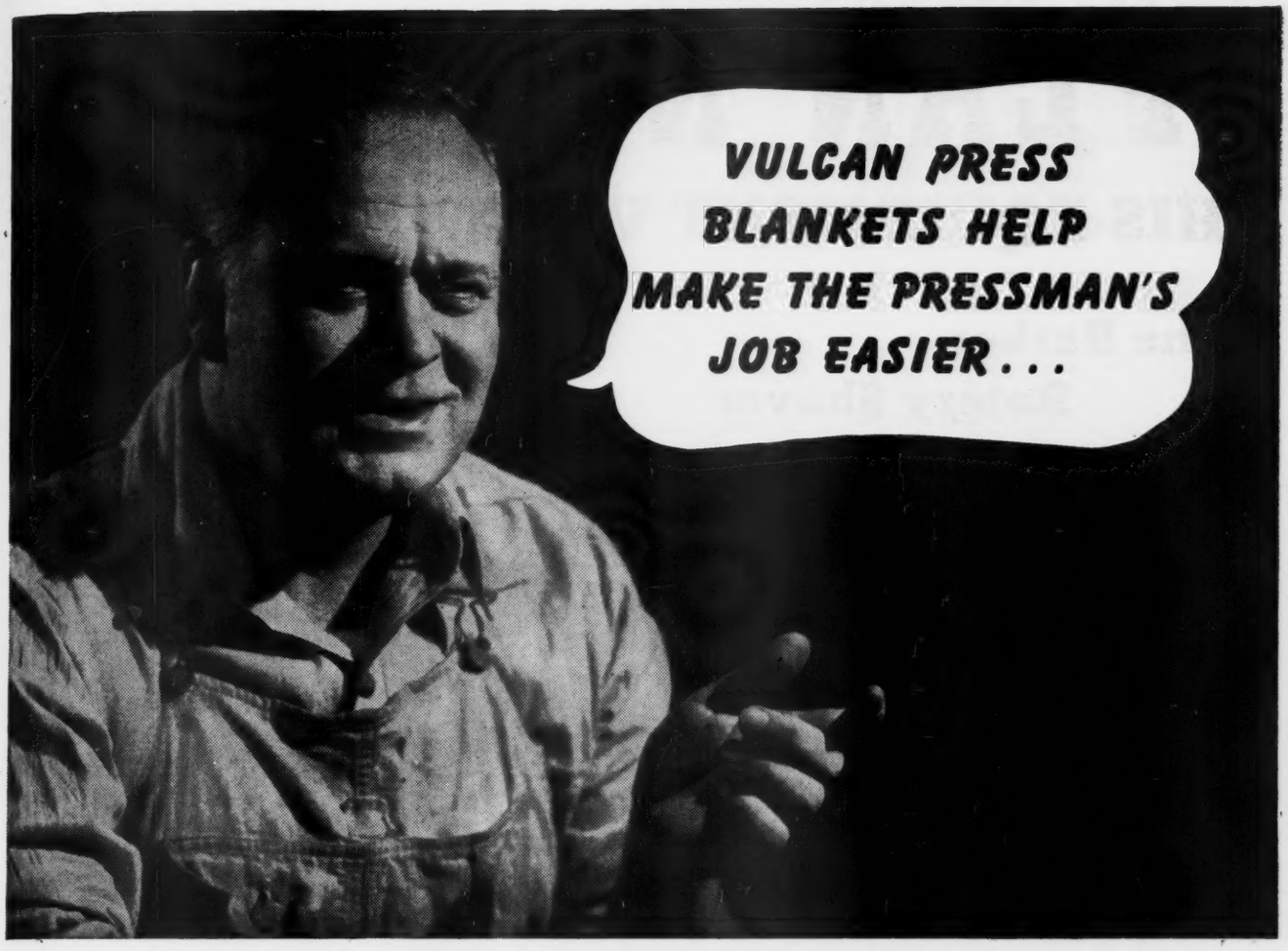
It was research that enabled us to produce an economical all-purpose zinc that would satisfactorily take the place of soft, medium, hard and extra hard grades.

Why not join the hundreds of ***REGISTER-REDIBAK*** *users?*

IMPERIAL TYPE METAL CO.

Serving the Graphic Arts Industry Only

PHILADELPHIA 34 • NEW YORK • CHICAGO 50



ADD LIFE AND SPARKLE TO PRESSWORK, TOO

These crowded days, the more extra work and worry you can save a busy man, the better. That's where **VULCAN** Press Blankets help ease the burden on the pressman.

It's a fact that **VULCAN** Press Blankets do their job with a minimum of coaxing and fussing, and play an important part in preventing pressroom delays.

That's because **VULCAN** research has given these improved press blankets the right combination of physical characteristics that pressmen look for. This means proper resilience . . . freedom from stretching, bolstering and ghosting . . . resistance to surface abrasions . . . long life.

Stocks to meet your needs are available. To allow for delivery time, order early.

VULCAN

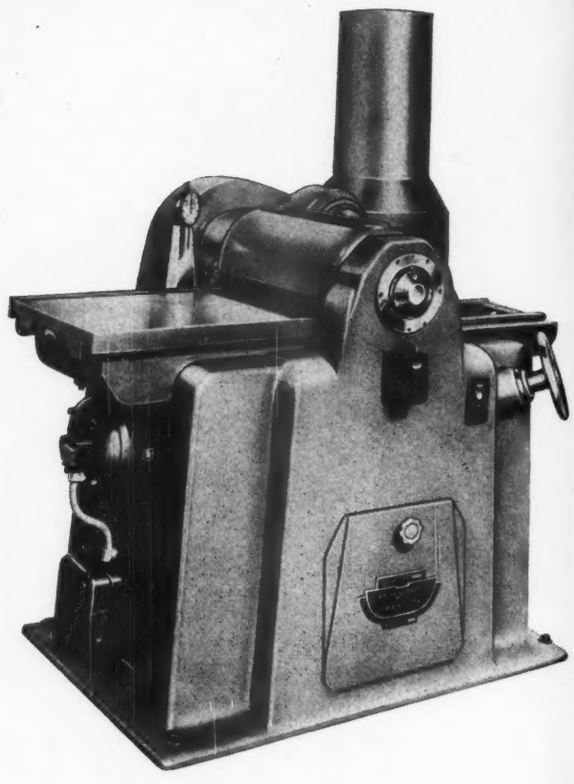
PROOFING COMPANY

FIRST AVENUE AND FIFTY-EIGHTH STREET, BROOKLYN 20, N. Y.

★ PLAN NOW *to install*

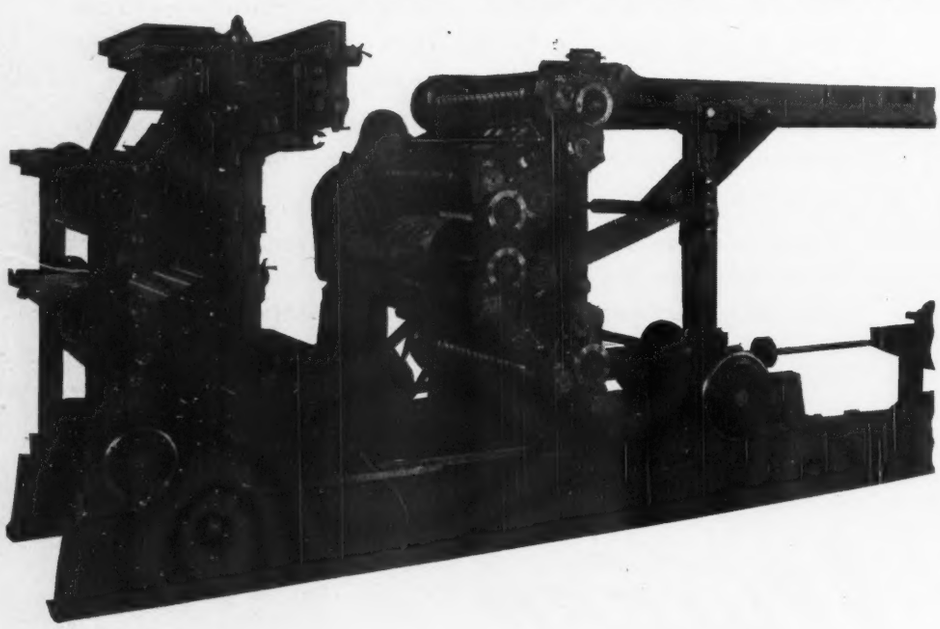
THIS EQUIPMENT WHEN AVAILABLE

The Barker Rotary Shaver



The Barker Rotary Shaver for heavy-duty precision plate shaving work will be available after the war, but right now is the time to investigate this fine equipment. The machine will shave from type high to 16 gauge and will handle any plate from 2″ x 2″ to 18″ x 24″. Micrometer gauge control; hand-wheel adjustment for cut to one thousandths of an inch. The Barker Rotary Shaver has five "V" driving belts with automatic controlled tension. There are no complicated clutches. Cutters are easily removed for grinding.

The Hess & Barker 4 Color Press



Here's a four-color press having many unique features. This press makes possible highly efficient results in publication, folder, bulletin and direct mail printing. Prints one to four colors; 600 feet per minute; length of print per revolution, 22″ to 29″. Unusual hydraulic rewind maintains hairline register. Space does not permit our giving you complete description of this press. Write today for complete information.

HESS & BARKER

212 SOUTH DARIEN STREET — PHILADELPHIA 7, PA.

LEADING DAILY NEWSPAPERS USE EASTERN SUPPLIES

"FLECTO"

GUMMED BACKING FELT

"FLECTO" Gummed Backing Felt is packed in individual containers of 5 sheets each, for convenience in handling.

"FLECTO" gummed backing felt is a product of modern chemical research. It is of finest quality, both in the felt and adhesive, and is sold on a money-back guarantee.

Here are "FLECTO" facts!

It will stick fast, on any mat, regardless of heat used in scorching. Its adhesive will not crack, peel, slip or crystallize.

It tears easily and cleanly, without ragged ends.

Its gauge is uniform throughout and all "Flecto" is gauged accurately.

"FLECTO" felt is well bonded throughout and will not peel or separate in layers.

It is soft and pliable, assuring conformity to the mat and easy shrinking with the mat Hundreds of users say "THERE IS NO BETTER BACKING FELT MADE."

SPECIFICATIONS

ADHESIVES—The special adhesive applied to "Flecto" is scientifically formulated to hold fast on all types of dry mats. Climatic conditions will not affect it.

FELT—This felt is produced under rigid control so that it is uniformly soft and porous, to permit the quick and easy escape of steam.

GAUGES AND SIZES

Gauges .021, .025, .030 (Green) sheeted 18" x 24".

Gauge .035 (Red) sheeted 18" x 24".

Gauges .040, .045 (Green) sheeted 18" x 22".

Gauges .050, .060 (Gray) sheeted 18" x 22".

Cut into strips 9" or 18" long and ⅛" to 1" wide at no extra charge.

"BLUE STAR"

MATRIX SEALING TAPE

(Rolls — 800 feet)

¼"	wide	120 rolls to bdle.
½"	"	60 rolls to bdle.
⅝"	"	45 rolls to bdle.
¾"	"	40 rolls to bdle.
1"	"	30 rolls to bdle.
1½"	"	20 rolls to bdle.
2"	"	15 rolls to bdle.
2½"	"	12 rolls to bdle.
3"	"	10 rolls to bdle.

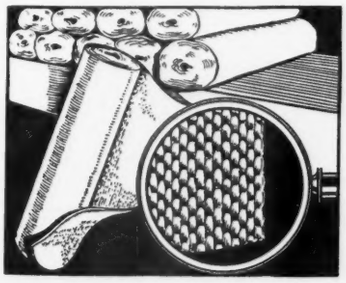
5% discount on full bundles — 30 inches. Coated with a special heat resistant gum. This tape is made of light weight flexible .035 Kraft paper to insure close binding.

"TRU-MOLD"

CORK MOLDING BLANKETS

The weight and density of each blanket is controlled scientifically to produce molders that are uniform. Correct thickness is maintained over the entire blanket, thus insuring satisfactory results in the faithful reproduction of even the most difficult forms.

ASBESTOS CLOTH



Plain or bronze wire woven asbestos, in sizes of all standard scorchers. Odd sizes can be furnished in any length desired. Plain asbestos —" thick in either 28 or 36 inch width. Bronze Wire Woven asbestos 1/16" thick in either 28" or 36" width. Bronze Wire Woven Asbestos ⅛" thick in 28" width only.

SUPERIOR TAILBOARDS

.054 and .030 gauges, for Flat and Curved Casting.
Flat Casting Board — .025 gauge.

Autoplate Belts	Cut Mounting Tacks	Direct Pressure Molletons
Router Bits	Hand Mitts	Blue Dryers
Router Belts	Molding Creepers	Mallets
Circular Saws	Molding Boards	Planer Blocks
Jig Saw Blades	Direct Pressure Felts	

SEND FOR PRICE LIST ON AVAILABLE ITEMS

The items shown in this advertisement are only a few of the hundreds of articles that we supply to newspapers throughout the United States. Eastern Newspaper Supply is equipped to give you prompt service on all products except those the manufacture of which have been curtailed due to the war. Send today for your free copy of this catalog.

EASTERN NEWSPAPER SUPPLY

9603 Northern Boulevard **Corona, New York**

Mercury Newspaper Rollers

RESEARCH keeps them ahead of their time

The precision with which Mercury Newspaper Rollers perform is a triumph of Research — the result of years of experiments in Rapid's laboratories. This balanced performance of Mercury Newspaper Rollers results from five characteristics combined in one roller:
1 — Resistance to ink absorption or swelling; 2 — Perfect alignment of core; 3 — Equal density in every cubic inch of Mercury Compound; 4 — Perfect concentricity; 5 — Uniform diameter throughout. That is why, today, Mercury Rollers provide performance beyond compare.

MERCURY SYNTHETIC ROLLERS FOR ALL GRAPHIC ARTS PROCESSES • MERCURY LITHOGRAPH BLANKETS

D. M. Rapport
President

RAPID ROLLER CO.

Federal at 26th
Chicago, Illinois

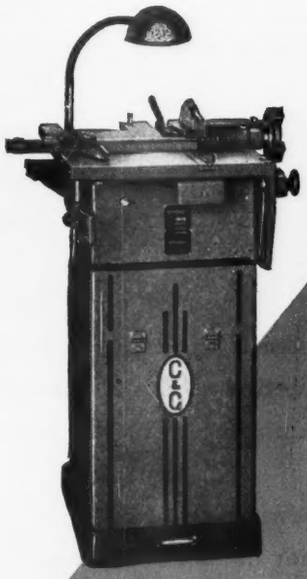
Plan for Full Production with
C & G SAW TRIMMERS

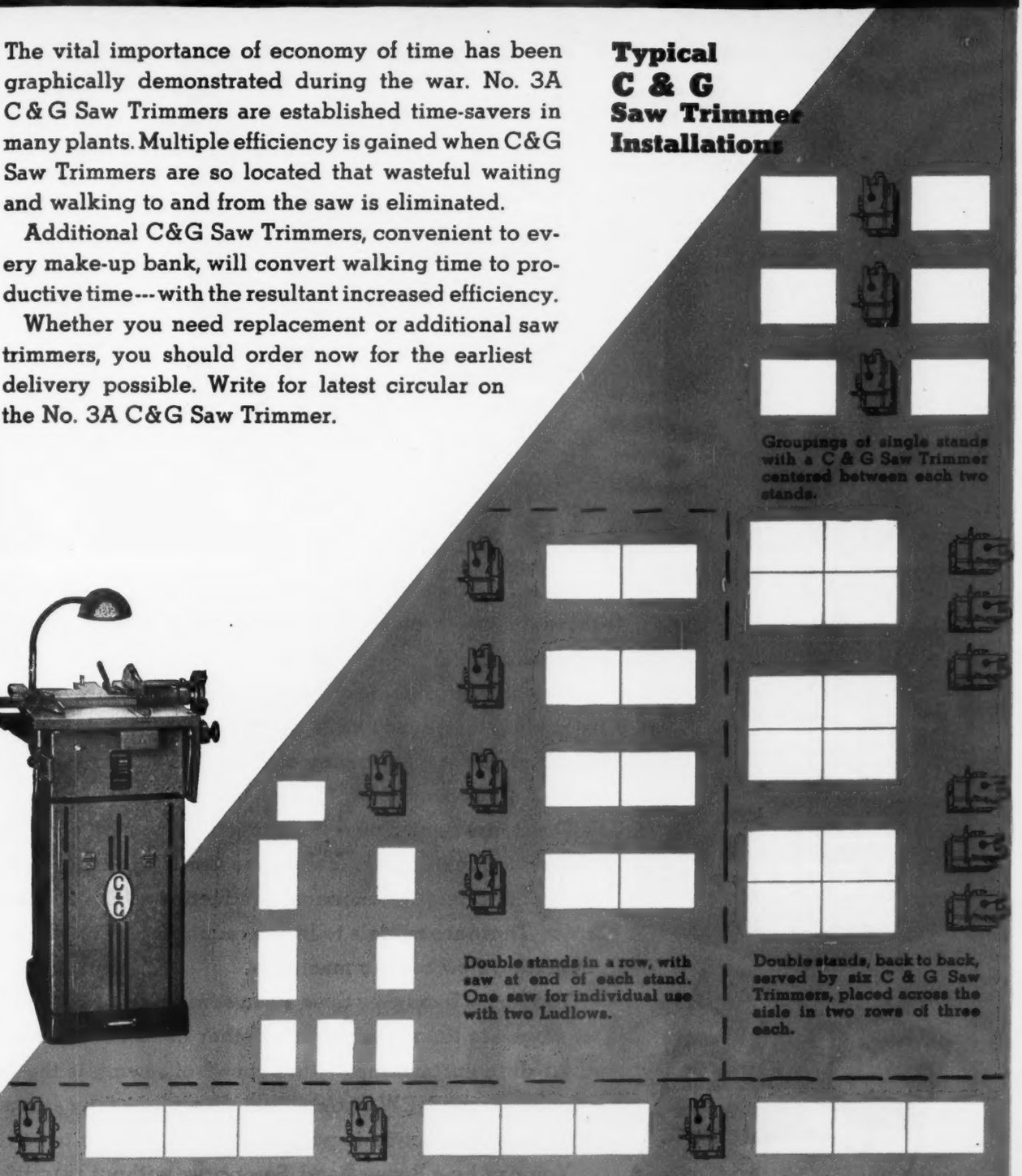
The vital importance of economy of time has been graphically demonstrated during the war. No. 3A C & G Saw Trimmers are established time-savers in many plants. Multiple efficiency is gained when C&G Saw Trimmers are so located that wasteful waiting and walking to and from the saw is eliminated.

Additional C&G Saw Trimmers, convenient to every make-up bank, will convert walking time to productive time---with the resultant increased efficiency.

Whether you need replacement or additional saw trimmers, you should order now for the earliest delivery possible. Write for latest circular on the No. 3A C&G Saw Trimmer.

Typical C & G Saw Trimmer Installations





Groupings of single stands with a C & G Saw Trimmer centered between each two stands.

Double stands in a row, with saw at end of each stand. One saw for individual use with two Ludlows.

Double stands, back to back, served by six C & G Saw Trimmers, placed across the aisle in two rows of three each.

Three tier stands are located with a saw between each unit of stands. One saw stand is on wheels.

It can be operated from any light socket, and moved to where most needed.

MILWAUKEE SAW TRIMMER CORP.

610 EAST CLYBOURN STREET MILWAUKEE 2, WISCONSIN

Here is Fully *Automatic* SLUG LENGTH SELECTION

NEW

Here is the story of the postwar Rouse Band Saw that takes the tediousness out of sawing sluglines for catalog and ad composition.

Here is multiple sawing production that is fully automatic --- sawing that needs only the touch of a button to select slug lengths of a full galley of slugs and saw to exact measure in 45 seconds.

The Rouse Band Saw is high-speed production equipment, geared to the demands of war time needs, designed to bring greater and more economical production in the composing room. There are models to fit the requirements of any plants operating slug casting machines.

The Rouse Band Saw does mean sawing jobs well --- whether slugs are long or short or whether there is one or a hundred different measures --- the speed of sawing is the same.

Send for the NEW booklet that shows how fully automatic slug length selection is possible.

You can buy Rouse Band Saws now without priorities.

H. B. ROUSE & COMPANY
2214 NORTH WAYNE AVENUE, CHICAGO 14, ILLINOIS

ESPECIALLY TESTED AND PERFECTED FOR BETTER NEWSPAPER PRINTING

A SIGNIFICANT contribution to better newspaper printing has been made by AMERICAN with the successful advent of these new SYNTHETIC RUBBER ROLLERS. On newspaper, magazine, rotary and offset presses they've come through the toughest actual performance tests triumphantly. Demonstrated remarkable endurance. Showed conclusive ink-distributing ability. Proved an obvious faculty for producing sharp impressions. Impervious to inks, driers, solvents, oils, etc. Don't lip . . . hold diameter perfectly in heat, cold, humidity . . . set easily and stay set. Order a set . . . you'll like them.

AMERICAN ROLLER CO.
1342 N. Halsted St., Chicago 22, Ill.
225 North New Jersey Street, Indianapolis 4, Indiana

American SYNTHETIC RUBBER Rollers

Blanket Research Creates ORIGINALS *not* IMITATIONS

● When you use New England Blankets you use originals not imitations. These originals were created by years of blanket research not only in our laboratory plant but in leading newspaper plants throughout the world. These New England originals include:

- **New England Oil Proof Faced Rubber Blankets**
- **A. Red Rubber Blankets**
- **Brown Faced Rubber Blankets**
- **DeLuxe Monocork Blankets**
- **High Speed Automatic Felt**
- **B. Tympans Stippled, Bright Automatic**
- **NENSCO (new) Cutting Rubbers**
- **Also Stereotype Supplies.**

FOR BETTER BLANKETS USE ORIGINALS NOT IMITATIONS

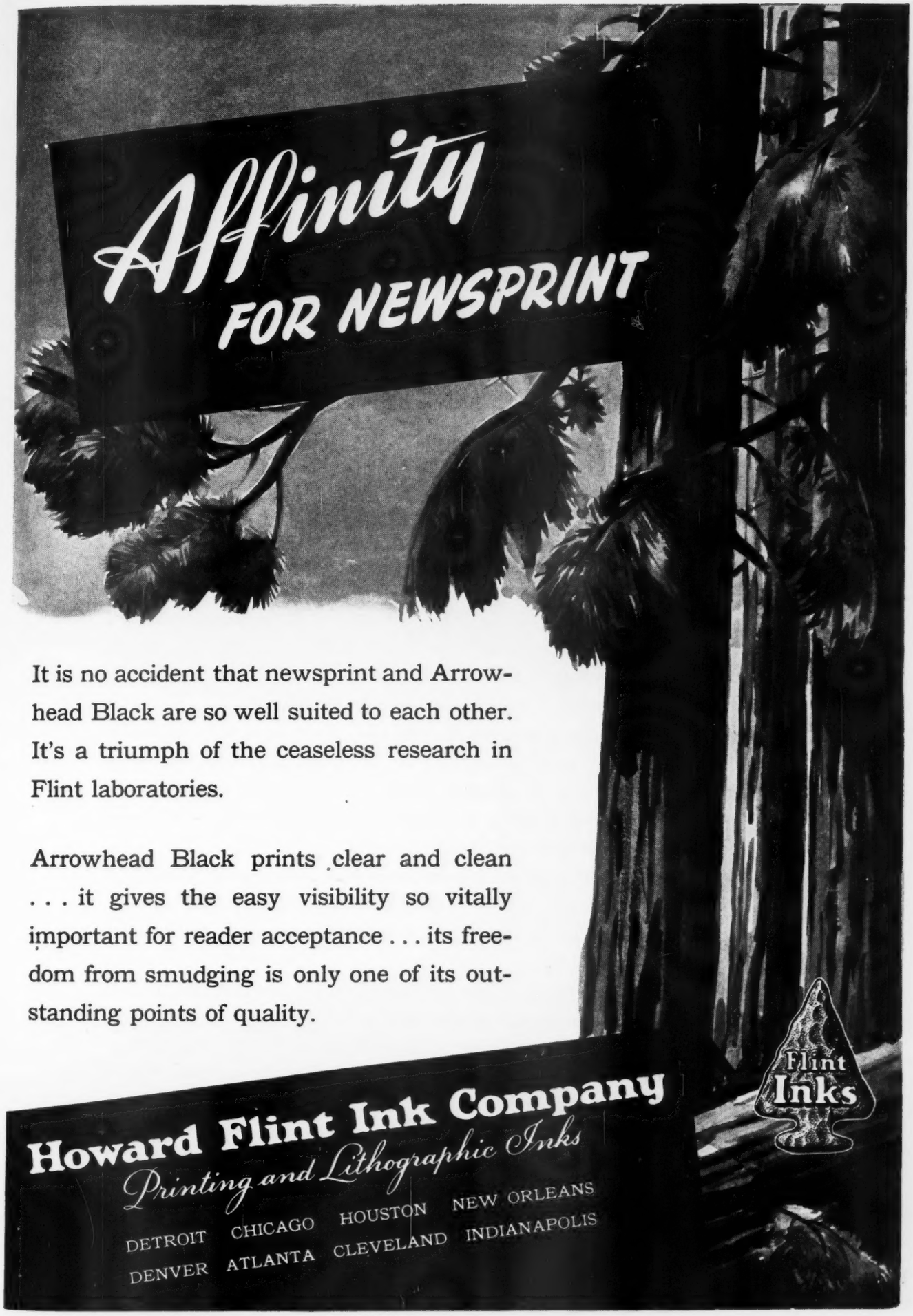
NEW ENGLAND NEWSPAPER SUPPLY CO.

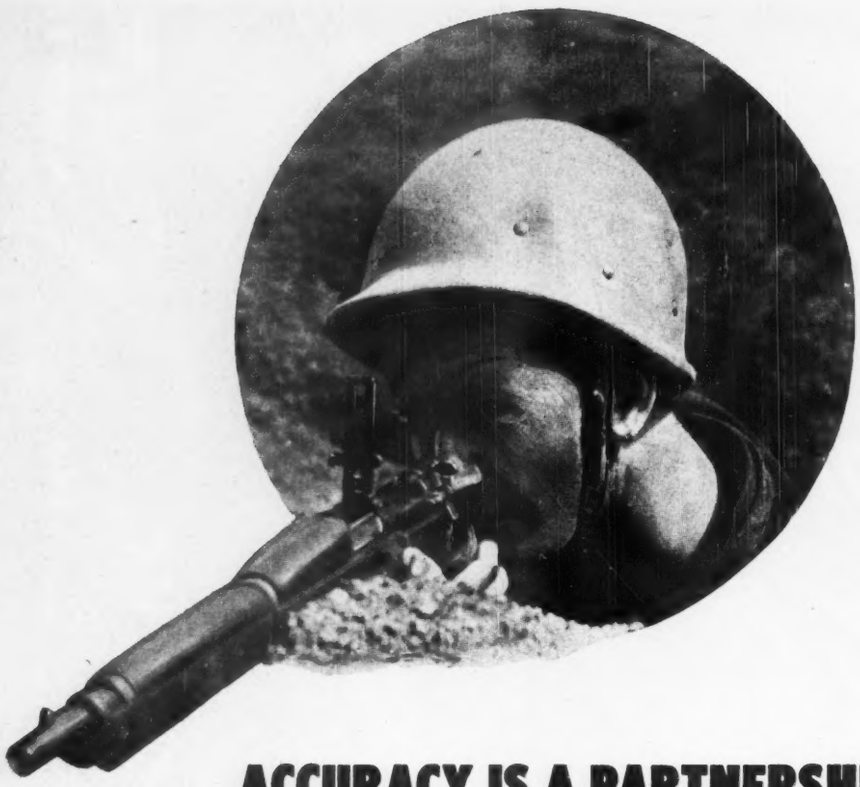
164 Fremont Street

WORCESTER, MASS.

BRANCH OFFICES

NEW YORK CITY	230 West 41st Street
CHICAGO, ILL.	1950 Daily News Building
SAN FRANCISCO	321 deYoung Building
PORTLAND, ORE.	308 Oregonian Building


Affinity
FOR NEWSPRINT
It is no accident that newsprint and Arrowhead Black are so well suited to each other. It's a triumph of the ceaseless research in Flint laboratories.
Arrowhead Black prints clear and clean . . . it gives the easy visibility so vitally important for reader acceptance . . . its freedom from smudging is only one of its outstanding points of quality.
Howard Flint Ink Company
Printing and Lithographic Inks
DETROIT CHICAGO HOUSTON NEW ORLEANS
DENVER ATLANTA CLEVELAND INDIANAPOLIS
Flint Inks



ACCURACY IS A PARTNERSHIP AFFAIR

EVERY G. I. knows that straight shooting at the front involves some straight shooting back home — the production of accurate, reliable equipment. That means painstaking workmanship, refusal to compromise on quality, constant leadership in improvement.

These same attributes have long been synonymous with the name HOE. For in no other way could we have produced printing equipment of a quality that has earned and justified the confidence of men who rely on Hoe presses and plate making machines to maintain the integrity and excellence of their own service.

Hundreds of printers and publishers have had reason to be thankful for this code as they have watched their Hoe machines stand up under the unusual strains imposed by four years of war while replacements were impossible.

But the day is fast approaching when new and even finer Hoe products will be available. And all that "straight shooting" means to Hoe can be reflected in your own service — if you will plan *now* with a Hoe representative regarding your peacetime needs for printing or plate making equipment.

BACK THE ATTACK
BUY MORE WAR BONDS

R. HOE & CO., INC.

HOE

910 East 138th STREET, NEW YORK 54, N. Y.

CHICAGO • BOSTON • BIRMINGHAM • SAN FRANCISCO

Booth Believes Heartily

in Cooperative Research

as well as in private research. The products sponsored by this Company were developed through painstaking research. We assure our customers that when our products can be improved by further research we will pass along the benefits to you immediately. We believe in progress.

BOOTH'S ZINK CUT CEMENT

is compound specifically for fastening all kinds of cuts to wood or metal base. It's a one-purpose cement. Its efficiency in holding cuts to bases is dependent upon being used sparingly.

BOOTH'S BLACK RUBBER ROLLS

These rolls are operating satisfactorily in the keyboards of many line-composing machines. They are compounded in such manner as to preserve resiliency over a long period of time. Concentric throughout their length when applied properly to the shaft.

ZINK CUT CEMENT

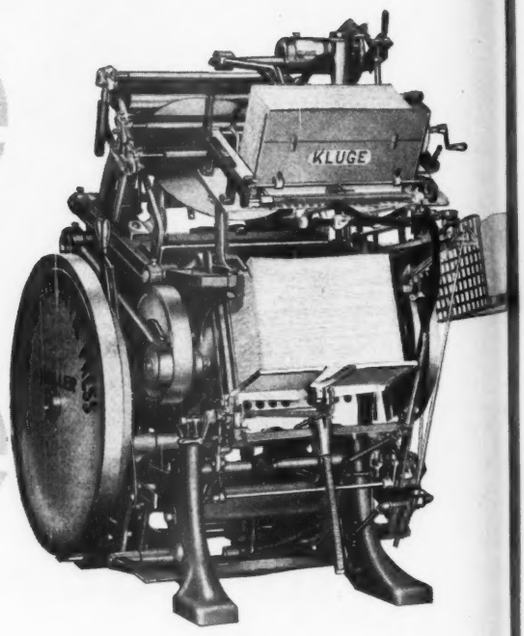
Prices in the United States 75c per tube; $6 per dozen tubes; $5 per dozen tubes in gross lots.

THE E. A. BOOTH RUBBER COMPANY
364 ROCKEFELLER BUILDING • CLEVELAND, OHIO

BOOTH'S BLACK RUBBER

Roll Prices in the United States, $1.45 per trial pair; $7.75 per dozen rolls.

'Sing a Song of Service . . a Pocket full of Profit



Kluge Automatics do sing a song of service and that song results in a pocket full of profit. A printing press, in order to be profitable not only in one season of the year but in all seasons, must be a versatile machine. Users tell us that the biggest advantage associated with their Kluge equipment is its all-purpose nature. The owner of a Kluge Automatic does not have to pick jobs for the equipment because regardless of the nature of the work, whether type matter, fine halftones, heavy solids, line drawings, or process color work, the job can be profitably produced on this equipment. The only limitation is size and both sizes of Kluge Automatics are built to accommodate over-size sheets.

It is the old story that the most profitable press on a printer's floor is the one that runs the most hours per day due to its versatility. That statement is an accurate description of the Kluge Automatic Press.

BRANDTJEN & KLUGE, Inc.

SAINT PAUL 3, MINNESOTA

DUPLEX

Builders of the World's

FINEST NEWSPAPER PRESSES

Every standard type of newspaper press in use today was first developed and patented by Duplex. This record of engineering accomplishment is your assurance of our ability to help you plan your future pressroom needs.

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EVENING DETROIT NEWS
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NEW YORK, U.S.A.

T/4 W. C. HARRIS, [redacted]
(Sender's name)
5TH [redacted]
(Sender's address)
APO [redacted], C/O POSTMASTER, [redacted]

Dear Gang:

Here we are at [redacted] and you'll never guess where our platoon is billeted - - in an old German printing shop. Nearly everything in this town was knocked out by our artillery, and this shop is one of the few places left standing.

I hardly recognized the composing room at first...such wacky characters that didn't even look like letters to me. Their "S's" are more like "F's" and there are a bunch of letters that I can't make out at all.

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Research in the newspaper field — Executives discuss what, in their opinion, needs investigating in order to try to improve newspaper printing

THE subject of cooperative technical research in the Graphic Arts Industries is commanding a great deal of attention just now. Cooperative research is distinguished from private research when it is understood that an association or a group of producers of printing or the products used in producing printing get together for the purpose of investigating methods or processes which it is believed will improve the quality of the product.

It is well known that the printing industry has depended heavily in the past upon private research. Most of this has been done at the expense of manufacturers of equipment and supplies used in the Graphic Arts Industries.

It now appears that if the several Graphic Arts cooperative research programs are carried through faithfully and concurrently with the well established private research programs the industry will benefit substantially in the future. After a sufficient amount of time has elapsed, we feel that the correlation possibilities of the results achieved by private and cooperative research will be great.

In this issue of *Printing Equipment Engineer* we wish to refer particularly to one of the cooperative research programs which is getting under way. Last year, the American Newspaper Publishers Association announced a five-year program and appropriated a sum of money for the purpose. Administration of the program was delegated to the ANPA Mechanical Committee of which Arthur H. Burns, Mechanical Superintendent of the New York *Herald Tribune* is chairman.

The report of the Research sub-committee of the Mechanical Committee of the ANPA has been published and we are presenting in this issue a sort of miniature forum in which we have asked representative newspaper production executives in various parts of the country to express their views regarding the research activities which might be considered by the ANPA Mechanical Committee. Our readers will understand it would not be possible for *Printing Equipment Engineer* to undertake publication of the thoughts of the many mechanical executives who have given the technology of newspaper printing a great deal of study.

We are not competent to state whether or not the views of the executives printed below represent a true cross-section of the opinions of their fellows throughout the country. But we do feel there is a lot of food for thought in the opinions expressed by these writers.

With these opening remarks, we direct your attention to the executives' forum.

Research from the Publisher's Viewpoint

By LINWOOD I. NOYES

Publisher, The Ironwood (Mich.) Daily Globe, and Immediate Past President, American Newspaper Publishers Association.

THE mechanical research program recently initiated by the American Newspaper Publishers Association promises to be one of the most forward and worthwhile activities of that association.

While the American Newspaper Publishers Association has been extremely active through its Mechanical Department over a period of many years, it has never heretofore undertaken, by scientific research, the improvement and betterment of the mechanical product which the newspapers have to sell. This is now to be done by means of a planned and correlated mechanical research program.

The ANPA Mechanical Department, for many years under the able direction of W. E. Wines, has been of material assistance to members and to the newspaper business in general. This work will now be expanded and new fields surveyed, evaluated and explored.

This new mechanical research program was established by the board of directors of the association in recognition of postwar possibilities and the further necessity of serving the best interests of all newspapers as far as mechanical developments are concerned.

The program in its initial plan contemplates activities in the mechanical field expanding over a period of five years with the hope of bringing to the membership the newest, best and most practical phases of mechanical development. This program is now under way in its formative stage. It is contemplated that $175,000 will be used in this study and it is hoped that in years following the program will expand so as to more fully service all members, large and small.

The program has great merit and holds the promise of real accomplishment. During the history of newspaper publication mechanical improvements have been numerous and real energy, skill and foresight have been directed to every phase of operation. Yet, it has been observed that except for certain refinements many fundamentals involved in our mechanical processes have been relatively static for many years.

Necessity has been termed the mother of invention. War, as sombre, horrible and destructive as it is, nevertheless is conducive to further advancement of science and mechanics. During this war there have been amazing developments because of war necessity. Some of these will live on and a number of them may bring about inventions and adaptations of high utility to the newspaper printing industry.

It is my belief that we are poised on the brink of new ventures in printing. I believe the future forecasts important developments.

Always there have been many definite obstacles which have constantly limited the newspapers' opportunity for doing a better job of reproduction. Many of them have been overcome; others can be surmounted. Printing in every phase is a precision process and the more precise its various steps are controlled, the better will be the finished product.

It will be possible to study from the consumers' standpoint many interesting and important needs and to further cooperate with existing manufacturers and producers to the end that active research can scientifically attempt to improve the reproduction and distribution of our daily newspapers.

Linwood I. Noyes states ANPA Mechanical Research Program has great merit and holds promise of real accomplishment.

Newspaper Research

By A. H. BURNS

Mechanical Superintendent, The New York Herald-Tribune, and Chairman of the ANPA Mechanical Committee.

THE printing of newspapers has been and is the life and work of many individuals in the United States, and they have sincerely tried and have succeeded to some extent in improving their product. Manufacturers of machinery and makers of materials, in cooperation with the operators of newspaper plants, have also made advances which have improved printing.

Various publishers under the impetus of the desire to improve and better their product have carried through research projects which have resulted in benefit to themselves and to the industry. Unlike many other industries, however, there has never been a coordinated mutual effort by publishers of newspapers to establish and prosecute a research program devoted to the mechanical production of their publications. What such a program would produce as a tangible result is a question that cannot be answered. In fact, I believe that no research man would predict, in any industry, a certain definite result before he started to work. He might, at that time however, make the statement that a possibility lies ahead and that the probability of producing something better is present.

The results of Research must, in the case of newspapers, recognize and be in conformity with that element that makes the newspaper popular and that requisite is the speed of production. Any result of research in the newspaper business will not be successful if it tends to delay the delivery of news to the reading public.

"The results of research must, in the case of newspapers, recognize and be in conformity with that element that makes the newspaper popular—and that requisite is the speed of production," asserts Arthur H. Burns, Chairman of the ANPA Mechanical Committee.

In common with all other research activity the result must not cost unreasonably in comparison with present costs.

The industry is so old and the methods of printing so well established that it appears at first glance that something revolutionary must be discovered to effect much improvement. Maybe this is so, but I think we should attempt to find out and that as soon as possible.

We are in an age of change and the war has brought out methods and materials that were only imagined a few years ago. Newspapers ought to know if such methods and materials, when they are released, can be applied to their business. A Research program will give them that knowledge.

The ultimate proving ground for any development in newspaper printing will be the producing plants, large and small, over the country, just as has been and is now being done in cooperation with manufacturers of machinery and materials.

It is the opinion of many that Research for newspapers is overdue and the feeling is general, I think, that the industry must develop constructive improvements that will enhance the appearance and make more attractive the daily newspaper.

Research from the Production Manager's Viewpoint

By JOHN KEATING

Production Manager, The Milwaukee Journal.

MAKING suggestions about research objectives from the viewpoint of the newspaper production manager isn't as simple as might appear at first glance. The reason for this is that in order to suggest research problems intelligently the production manager must try to appraise the physical appearance of a newspaper from an over-all viewpoint.

All of us feel that we are capable judges as to what constitutes good newspaper printing. But being concerned mostly with the profession of manufacturing newspapers it isn't reasonable to suppose that the average mechanical executive can be skilled *both* in production and in scientific mechanical research. Furthermore, a newspaper's executive personnel and its craftsmen are not in a position to find the answers because of lack of time, financial means, training and equipment. This being the case, we recognize the need for some outside agency to find the answers to our problems just as is done in the metallurgical, chemical and other industries.

John Keating views research from the production manager's viewpoint. Tells why scientific newspaper research is desirable.

We are in agreement about a number of the imperfections to be found in the average newspaper, and it is upon this basis that we make our comment.

Here at the Milwaukee *Journal* we are definitely research minded. We believe in research. Within our organization we are constantly striving to better the techniques in an informal way and with the means at hand. We recognize our limitations. By careful study over a long period of time we have made some progress in improving the appearance of our printing. But as the result of our own experiences we keenly feel the need of scientific research.

While all newspaper executives undoubtedly are color conscious, as are we, yet it would seem that before getting into newspaper color printing research, the proposed ANPA Mechanical Research program should be confined to basic black and white printing—at least for the present. After that—well, it looks as though many of our color-printing problems would be solved automatically. In that event, color printing in newspapers will run riot throughout the land.

With respect to the objectives which should have preference in ANPA Mechanical Research we don't have decided opinions. However, it seems that first impression printing should be one of the first research objectives.

At most of our newspaper mechanical conferences first impression printing has been discussed frequently. All of us know what it is and we think we know why it occurs. We are also able in most cases to identify offset, strike-through and show-through. But we do not know how to eliminate the trouble, mainly because it is our business to produce newspaper printing within limited and highly restricted times. If it is desirable that first impression printing be investigated we are not in position to say just how it can be improved—whether by the use of a volatile ink with vaporizing unit, inks which set rapidly by precipitation, by the use of water-base ink, or by other means. Perhaps, too, other factors such as the plates we now produce and the customary press packing may be involved. These are the things that can be determined by the proposed research program if first impression printing investigation is undertaken.

The various processes employed in producing a newspaper, we have no doubt, all contribute more or less importantly to the imperfections which annoy both ourselves and our readers.

For instance, we will take the case of a fine news photograph or layout for a society page which we think is suitable for splendid newspaper reproduction. Every care is exercized by the artists and craftsmen to see that the best workmanship is used. We even try to give the illustration a break by printing it on a second impression page. But somewhere along the line something happens to cause the illustration to print far below our expectations.

In a general way we have vague ideas about the losses in quality from the time the photo-engraver makes the plate, the composing room mounts it in the form, the stereotyper makes a curved plate, and finally the plate containing the illustration is printed from in the pressroom. Actually, none of us know just where to put a finger upon the cause, nor how to eliminate it. I don't feel that the average mechanical executive is competent to say exactly why we have these losses nor how to overcome them. There are too many process details aside from our scant knowledge about ink and paper for us to identify and evaluate the gremlins causing such disappointing results.

One of the main benefits (and perhaps the most important) to be expected from scientific research is that many of our rule-of-thumb opinions will be replaced with authoritative facts. If the proposed research program doesn't do anything else, it will permit us to continue im-

ANPA

Mechanical Committee

Chairman of the Committee—A. H. Burns, Mechanical Superintendent, New York Herald Tribune, Chairman.

Secretary of the Committee—W. E. Wines, Manager, ANPA Mechanical Department, New York.

John L. Blake, Scripps-Howard Supply Co., New York.

John A. Burke, Production Manager, Gannett Newspapers, Rochester, N. Y.

T. A. Corcoran, Purchasing Agent, Louisville (Ky.) Courier-Journal and Times.

Worth C. Coutney, Vice President and General Manager, The Toledo (O) Blade.

Edwin H. Evers, Production Manager, St. Louis Globe-Democrat.

Leslie J. Griner, Mechanical Superintendent, The Chicago Sun.

Maurice A. Hagan, Photo-engraving Superintendent, Philadelphia Inquirer.

John W. Park, Production Manager, Chicago Tribune. (Served as Committee Chairman for several terms.)

Charles H. Ruth, Superintendent, Washington (D. C.) Star.

John J. Shea, General Mechanical Superintendent, Hearst Newspapers, New York.

provement in the appearance of printing without working under erroneous mental hazards which have no doubt impeded technological progress. Taken as a group, all mechanical executives have always wanted to print better newspapers. From this viewpoint alone, scientific research will be a blessing to the industry.

That Which Is Needed By Newspaper Photo-engraver

By EBBIE M. JENNISON

Photo-engraving Superintendent, Minneapolis (Minn.) Star Journal *and* Tribune.

I THINK there are two outstanding things in the newspaper engraving department on which a lot of research work could be done. The first is roll film for roll film cameras. The emulsion on this film is very fast, and in a fast emulsion film you do not get a good sharp dot formation. The fuzz or halation around the dot and the connection between the dots have a tendency to fool the eye. In a negative of this kind the printer has to be very accurate in his judgment of printing time, or he will change the tone values of the picture as much as 25 per cent or more.

I think a film could be developed that would compare with the density of sheet film or the old wet plate negative. If a film of this type were developed it would save a great deal of time in the printing department and I am sure we would see a good deal sharper reproduction in our newspapers.

We know that long exposures on this film will harden it some, that with the stress on more pictures it is impossible to get out the amount of work we have today, using long exposures or slower film. That is why I think a film of fast exposure and a sharp dot should be on the market to help with the problem of more pictures combined with a shortage of help.

The second thing that could stand a great deal of research is cold top enamel.

Ebbie M. Jennison, newspaper photo-engraving executive, comments on film and cold top enamel research projects for photo-engraving.

We all know that since the war started good shellac has been very hard to get, but before the war cold top enamel was not uniform in printing time or in body. We have had all kinds of trouble with it, such as scum in hot weather, pin holes, reducing on the first bite in etching, and failing to stay on the plate for re-etching. It seems that each order of enamel varies so much that the printer in starting to use a new batch is completely in the dark as to how the plate should be coated and how much time is needed to print it.

When a cold top enamel is developed that does not change within a reasonable time or with weather conditions, I am sure we will have made a great stride in the elimination of makeover plates in both printing and etching departments.

I also believe that the manufacturers of cold top enamels should instruct purchasers of their product in the best way in which to handle the enamel in regard to temperature of enamel and developer, and how long it can be stored, and what kind of temperature in which to store it.

Research From Composing Room Executive's Standpoint

By CLAUDE L. BAKER

Composing Room Superintendent, The Times-Picayune *and* New Orleans States, *New Orleans, La.*

THE newspaper in the immediate future must be more interesting, more pleasing to the eye in makeup and must be better printed. These improvements are necessary if newspapers are to match printing results of all other media. There are many elements involved in the achievement of this goal and they belong equally to all the mechanical departments and to a great degree they extend to the news and advertising departments.

Art makes a paper—both in news matter and in the attractiveness of ads. Improvement in this direction should be stressed. Better copy so the engraving department can make better cuts. Research by the ANPA, the SNPA and other newspaper mechanical groups should be conducted from copy through the pressroom.

Shrinkage plays an important part in the quality of the finished job. Newsprint shortage has forced us to more shrinkage in order to stretch our white paper. We set a 12-pica column, use a 3 or 4-point column rule, send the forms to the stereotype department where we get, in some instances, up to 1¼ in. shrinkage to a page. We distort our type and the detail of our cuts. We cannot do the best printing under these conditions.

If we must use a narrower newsprint roll, wouldn't it be better if we quit kidding ourselves and adopt an 11½-pica column and use 6-pt. column rules so that we could get a little air between the columns? We could then practically eliminate the shrinkage. Our cuts would print sharper and clearer and our type would not be distorted. Reproductions from mats would print much better. The general appearance of papers would show marked improvement.

War-time necessity brought on some of these conditions but even before the war we were guilty of too much shrinkage, thereby sacrificing quality.

Measures and column rules should be standardized. Service mats and electrotypes would then fit in any form. Composing rooms should stick to picas as a means of measurement in column widths and use 6-pt. column rules to carry it through. Attaching gadgets to machines to set points only complicates the mechanical operation.

Claude L. Baker suggests rather pointedly that newspaper executives quit kidding themselves with respect to use of excess shrinkage in order to print on narrower newsprint rolls. Simply, an 11½ pica col. with 6 pt. col. rules can be used. This will eliminate distortion now caused by excess stereotype mat shrinkage.

It would seem to me that the feasibility of eliminating shrinkage as much as possible would permit great improvement in typography and do away with some of the distortion hazards caused by excess shrinkage with which we now have to cope. Consequently, why not make this one of the first projects to be undertaken by the proposed ANPA research program?

One of the most serious problems in a composing room is the need for a quick and positive method of anchoring cuts. Glue and tape do the job, but not satisfactorily. When you wash off a form the glue or tape dissolves and becomes messy and cuts have to be washed carefully. When the form goes under the molder the pressure sometimes causes a seepage which flows over the edges of your cut and it gets into a half-tone screen. Tacking cuts down but it takes too much time.

Color printing will be with us again after the war and much study should be given to the preparation and follow-through on this important source of business.

Lighting and cooling systems are important. The best available lights to save the eyesight of workers and comfortable temperatures under which to work will provide incentives for better production.

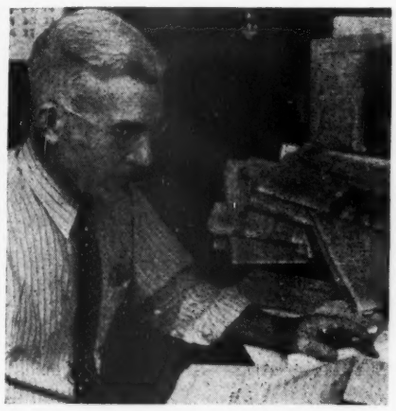
Research in the Stereotype Department

By GEORGE FULLER

Stereotype Superintendent, The Cleveland Press.

THE process of newspaper stereotyping is roughly the same as it was 50 years ago. Equipment has been improved immensely, but not enough to overcome the present-day troubles encountered in producing curved stereotype newspaper plates. Therefore, it seems cooperative research would produce the answers to many problems.

Research could begin on mats. All makes of mats have good qualities, but one



George Fuller discusses certain peculiarities present in stereotype process which he feels should be investigated.

difficulty is the problem of getting pure solids and solids in halftones to come out the same height in the curved plate as the body type. Apparently much of this trouble is caused by mats, some mats are hard, some not so hard, but much of the time solids and solids in halftones do not take the impression in the mats the same as the body type does. In other words, if a mat of a solid or the solid sections in a halftone and a mat of the body type were cut in half and measured by micrometers, it would be found that the solids would be thicker than the body type, so consequently they show low or concaved in the curved plate as compared to the body type. This is what causes the concaves in the solids of halftones in the curved plate.

Research might tell us whether hardness, softness or density of mat causes these problems. In molding, solids and halftones containing solids should mold the same as body type for best printing. Cork blankets, too, which are the standard molding blankets for dry mats, may cause variations in molding depths over the area of a newspaper page, possibly due to the fact that the cork blanket may not be uniform in density, slightly soft or hard in spots. Research on the packing of the open spaces of the mat would be worthwhile. The different depths and sizes of the open spaces and the different thicknesses of packing may be causing plate variations. Some of the variations may be caused by lack of uniformity of the mat itself; difference in thickness and density in spots. Research to determine whether all mats reproduce the same printing surface on a curved plate using the same formula of stereotype metals; in other words, would a higher or lower tin and antimony content of stereotype metal produce a different plate from certain mats and what would be the difference if any, in a curved plate when using a high tin content, as against a low tin content? Even the type metal concerns do not seem to be able to answer these questions. The mat concerns call it the density of the mat, but we do know that some types of mats cast better or seem to have a better affinity for type metal than others.

Research to determine the really proper system of molding, whether direct pressure or mat roller molding gives best results would be interesting. There are too many different opinions regarding the merits of each method.

The amount of pressure required to mold a mat of proper depth for a halftone and for body type varies with different mats. All mat manufacturers make claims for their mats, but they don't necessarily hold true in actual practice. Knowing more about these pressures would be a distinct benefit to the stereotyper in the mounting of cuts and molding of pages. Today, it is all guesswork. It would determine whether a halftone should be run over type high and if so, how much. Then determine whether more distortion takes place in a high shrinkage may of say 1 in. shrinkage as compared to the normal shrinkage mat of ½ in.

Research on the curved plate itself. A plate as it comes from the Autoplate machine, is allright until it encounters the cooling water. Then a great deal of distortion takes place which causes a great deal of trouble. Its this distortion that makes it impossible to produce a perfect curved newspaper plate to fit the press cylinders. Apparently the strains and stresses set up in the metal as the plate is cooled so rapidly causes this distortion. You've watched a hot plate come into contact with the water when leaving the shaver arch, and seen it pull in approximately ¼ in. on each side, and gradually start to come out again a certain amount. This plate is supposed to fit perfectly on the press cylinder. A diemaker makes a die, tempers it, then finishes it. We make a good plate, finish it or shave it, then temper it or cool it and the distortion that takes place spoils it. Whether its research on the stereotype metal or on the machinery that makes the plates we do not know.

Research on the curved plate itself should include some way to actually determine the imperfections in the plate. When the actual imperfections are known, there is better chance of determining the cure. Maybe we should study the relationship of stereotype plates or metal to ink, too.

I firmly believe that research should be done on the whole stereotype process as we know it today, as well as on new processes like aluminum, alloys or plastics for newspaper operation. In any event, let's improve our present process.

If any new processes come into the picture, it will mean increased expense in changing equipment in every newspaper plant both in stereotype and pressroom. To my knowledge, no scientific research has ever been done on the stereotype process. This is a serious indictment of our profession.

If many of the imperfections of stereotyping could be overcome by research, then the printing presses (which now pick up these imperfections in the plate) could be equipped practically the same as color presses which do high grade printing from stereotype plates. It does seem reasonable to believe that it can be done.

Research in the Pressroom

By EARL R. WEISKITTEL

Pressroom Superintendent, The Youngstown (O.) Vindicator.

THE pressroom, being the proving ground for all mechanical departments, it is reasonable to assume that one of the logical places for extensive research would be in this particular department. When better printing is discussed, the old bugaboo of first impressions rises up to plague us. Therefore this one particular subject really should be a first order of business for any research body. There are so many contributing factors to this evil (and most newspaper publishers place the entire blame in the pressroom) that in my opinion are in the other departments, such as uneven type forms, low halftones, excessive mat shrinkage, and other contributing factors.

The blankets we use now are far superior to the old soft, spongy type used in

Earl R. Weiskittel mentions first impression printing, blanket thicknesses and newsprint finish and rewinding as among prime objectives in newspaper mechanical research.

the past. While great improvements have been made in this field, research to predetermine the density and resiliency of the blankets would take out the guesswork that is necessary to determine what blanket thicknesses are required to give the best results. The face of the blanket should be studied with regard to repelling ink.

Blanket thicknesses used on high-speed newspaper presses range in gauges from 0.140 in. to 0.176 in. The press builders tell us that all the manufacturers are going to standardize on one size blanket cylinder, which will be 0.125 in. undercut. Why? Has it been proved that this is the correct amount of packing necessary for best printing and production results? Tests are now being made with much less than that on the cylinder and the results are an improvement over the heavier packing. The first impression is sharper and the feed of the sheet is as good or better than with the old gauge blankets. This, too, should be given exhaustive tests to determine how much packing is needed on the cylinders.

The blanket manufacturer must give us something that will resist impression and be able to tell us beforehand how much his product will compress and how fast it will come back.

The ink we use is another thing that should be given a lot of study. While the ink manufacturers have improved their products over the old gritty ink we used some years ago, they have not been able, due to low selling price, to make their experimental work effective. The inkmaker and the chemist must do their part and make the proper type of ink that will adhere to the rollers and free itself from the plate onto the paper.

Much has been said about poor ink and rollers, but how about the feed of this ink and the type of roller best suited to distribute and cover the plate before the type comes in contact with the paper? The press manufacturers tell us great improvements have been made in the ink fountains and control of the setting of the color. With respect to the proposed cooperative research program, I feel these are problems for the engineers and press designers.

Paper is another item that could stand for a lot of improvement. First, the winding should be improved. This evil causes more trouble and unnecessary work in the pressroom than any other factor. It will cause web breaks, poor control of sections at the folder, angle bar webs will run out, first impressions will slur and cause poor registration on color runs.

The finish on the paper determines to a great extent the clearness of print, therefore, a thorough study of newsprint would certainly be of great benefit to the industry.

The rollermaker, the papermaker, the press builder and the ink and blanket manufacturer should all work together instead of individually to overcome the troubles of the pressroom and of first impressions in particular.

These things and many others will be the problems, not only of the manufacturer but of the entire industry, and the research organization to be set up by the ANPA is certainly a step in the right direction.

The wise publishers will get behind the Mechanical Committee and help themselves by helping the committee.

Improvement Needed in the Mailing Department

By JOE MENARD

Superintendent Mailing Room, Des Moines (Ia.) Register *and* Tribune.

YES, although the Mailing Department has installed much up-to-date machinery, it is still behind other departments, not only in the development of modern equipment but in the handling of the work. Twenty-five years ago the addressing was done with hand machines at the rate of two or three thousand an hour, depending on the speed of the operator. Automatic machines now do the addressing at the rate of almost 300 per min.

Not quite so long ago, all the bundles were tied by hand, using rope. Now the same work is being done with wire-tying machines. These machines have a capacity of 24 bundles per min. and an operator that is familiar with the machine can get about two-thirds of the capacity of the machine for an average. This shows progress, but how about the bundles after they are tied?

Joe Menard discusses need for modernization of mailing room equipment and methods.

Many mailing rooms are so arranged that the bundles from two or more machines are run together and then have to be sorted out on a loading dock before they are loaded in the truck. I have seen loading docks where as many men were working sorting the bundles as it took to operate the tying machines that tied them. One machine can keep a couple of husky drivers busy loading, so why not load direct from one tying machine to one truck? By using this system the wrappers can be kept in the list in reverse order that the driver wants them unloaded so he will not have to even look at the labels as he loads. The first bundle he receives is the last he unloads so he puts it in the front of his truck, and the last bundle he receives will be the first to unload.

I would say that the machinery most needed in a large mailing room now is inserting machines that will insert any kind of sections, including roto sections on the outside of the rest of the sections. Thousands of papers are inserted by *hand*, but why? Why can't this be done by machinery also? We have folding machines and all kinds of machines with automatic feeds, but there is still a great need for the right kind of an inserting machine. The inserting machines that are now in operation are inserting papers at a certain speed but they are not fast enough and can not handle any kind of a section like they should. At the close of the war, I am in hopes that someone will take this matter seriously and finish up perfecting inserting machines.

Another matter in which causes most mailing rooms to lag behind the procession is in the installation of conveyors to carry papers about the mailing room.

If you haven't thought of it recently, the mailing room is now a mechanical department. Employees of this department should be included in mechanical conventions and become more machinery minded.

Conferences Will Be Just as Much Needed After War as Before

By W. E. WINES

Manager, ANPA Mechanical Department, New York, N. Y.

THE holding of a newspaper Mechanical Conference in the City of Harrisburg, Pa., in June, 1927, under the auspices of the American Newspaper Publishers Association, was an innovation in the newspaper business. As far as I am aware, it was the first meeting of the kind. For years there had been conventions of newspaper publishers, and editors, and circulation managers, and advertising managers, and even of classified advertising managers, conventions both national and regional, but not until the ANPA called a Mechanical Conference had any group of newspapers put the men responsible for the mechanical production of the papers into a room by themselves and given them an opportunity to discuss their own problems in their own way.

This first national Conference was followed in the next week by the first meeting of the Iowa Newspaper Composing Room Executives Association. Both these Conferences have been flourishing ever since, and have steadily increased in attendance, prestige, and influence. The Iowa Conference now covers all mechanical departments and has spread into several adjoining states.

The mechanical conference idea has spread all over the country. Regional and

state conferences have been held in terrorities stretching from New England to California, and including all the Southern States. Newspaper mechanical conferences have been held in Australia. Only a war offered any serious obstacle to this momentum.

I am unable to believe that newspaper publishers and managers would continue to support the conferences, by sending their men and in many instances attending themselves, unless they were convinced that real benefit is derived. What are the benefits?

The primary object was, of course, to give these men an opportunity to exchange ideas and experiences, and an opportunity to submit their problems in the hope that a solution would be forthcoming from the group. In this respect they have been eminently successful.

Another benefit which has accrued alike to newspaper owners and their mechanical staff is that publishers have been led to take a keener and more lively interest in their mechanical departments, and to place a higher appraisal upon the value of those departments to the newspaper enterprise as a whole. I believe that the mechanical men who have attended these Conferences take a more lively and more intelligent interest in their daily jobs. A man who has for many years stood very high in the management end of the newspaper business said to me, after attending one of the early ANPA Conferences, "Every newspaper publisher should send his mechanical men to these Conferences if it is only to increase their self-respect."

The indispensibility of the newspaper mechanical conference, especially with respect to the ANPA, is discussed in friendly manner by Manager W. E. Wines of the ANPA Mechanical Department.

I have, of course, attended all the ANPA Conferences, and also many of the Regional Conferences, and I have been impressed by the obvious fact that, with negligible exceptions, the men who attend come for the benefit they expect to derive, not merely to have a good time.

As evidence of this is the statistical fact that the number who are present in the meeting room during the sessions is always a large percentage of the total registration. And, after all, it is the men who attend who make or break the meeting.

I do not anticipate that the war will put any serious check upon newspaper Mechanical Conference activities. I believe that the fundamental reason for their success is that they were so badly needed, and I believe they will be just as much needed after the war as before.

Press Makers see big business ahead putting color in daily papers — Orders pile up, indicating busy post-war for "prince or pauper" industry which has been fully engaged in arms work

By THEODORE ENGLISH*

**Writing in* The Wall Street Journal, *Tuesday, May 22 issue. Published by permission Dow, Jones & Co., Inc.*

PRINTING equipment makers, in whatever time they have free from war work, are designing a four-color rainbow that promises to lead to a post-war pot of gold. They have made color printing commonplace in the editorial and advertising pages of the monthly and weekly magazines and the Sunday supplements. Now they plan to put color on a daily basis and sell it to the newspapers.

This proposal arises partially from the fact that the printing equipment industry suffers from the same affliction of many "heavy" industries. Its products last too long. In the newspaper business, where equipment wears "too well", press manufacturers hope to stimulate buying by offering color as a new product.

Presses and Other Equipment Needed

The development of color for the daily paper coincides with a huge war-created backlog for all types of presses and equipment. Press makers began taking war orders as early as 1940 and have been making only replacement equipment since. The Goss Printing Press Co. of Chicago believes that the resulting backlog is sufficient to keep it busy for five years. Harold G. Cutright, new president of R. Hoe & Co., The Bronx, says that "approximately $20 million of newspaper and magazine press business is awaiting placement in the immediate future in addition to the very substantial volume already booked for post-war delivery."

Mr. Cutright also foresees a large pent-up demand for smaller equipment for commercial printing shops. And the commercial shops, according to a survey by the *Inland Printer*, a trade publication, will spend $62 million on equipment in the first post-war year.[1]

These orders must wait, however, until the industry is freed from war work which has kept practically all its facilities busy on ordnance items. But reconversion will not be a serious problem since the industry has many "general purpose" tools which work as well on press cylinders as on gun barrels. Hoe believes it could reconvert in two to three weeks but says that it may take as long as six months to begin the heavy presses.

Among customers already booking heavy equipment with pressmakers are Time, Inc., and Crowell-Collier.

As holder of part of the *Time* order, Hoe has arranged the largest single sale in its history, well above the previous $1 million record. Before the war, Hoe's sales averaged about $5 million annually, making the company the biggest of the press manufacturers. Goss, which is participating in the $5.5 million Crowell-Collier program, was a close second.

For competitive reasons, some manufacturers will say little about bookings of post-war orders. There are only a small number of firms in this field. Besides Hoe and Goss, press manufacturers include American Type Founders, C. B. Cottrell & Sons Co., Miehle Printing Press & Mfg. Co., Harris-Seybold Potter Co., and Rutherford Machinery Co., Div. of General Printing Ink.

In newspaper orders, Hoe and Goss report, color is the "common denominator." All newspaper contracts both companies have negotiated so far specify presses ready to run color or designed so that it can be added at comparatively slight additional expense.

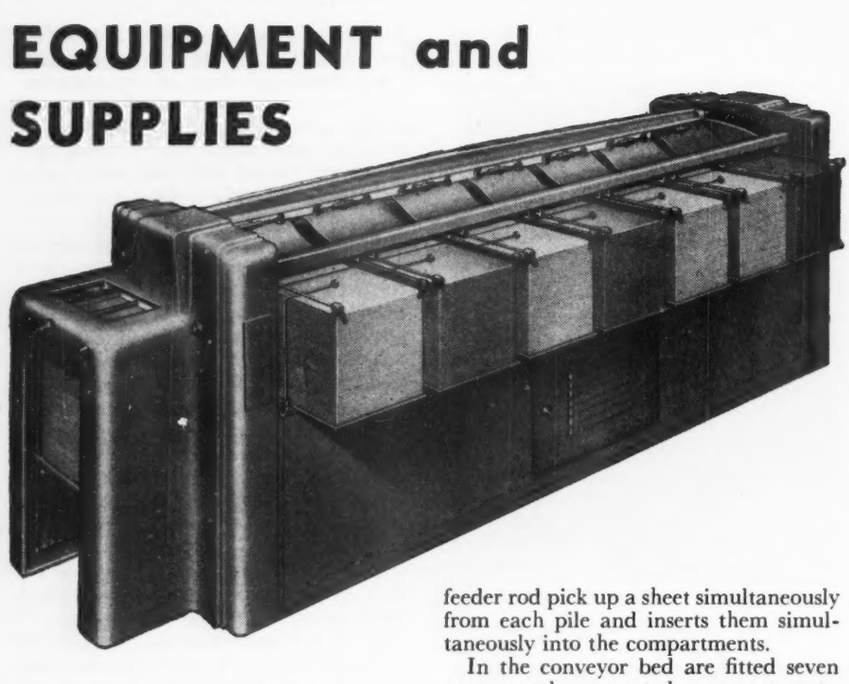
The Sun Takes on Color

Marshall Field's Chicago *Sun* plans to spend $5 to $10 million on post-war improvements, $2 million of it for Goss color presses. This move appears to be provoked, in part at least, by the fact that the *Sun's* long-established rival, the Chicago *Tribune*, has been a pioneer in newspaper color printing. The *Tribune* now has enough equipment, but in-

(*Continued on Page 93*)

[1]See also *Printing Equipment Engineer's* comprehensive postwar equipment and building survey summaries, prepared from reports received from 561 representative plants throughout the United States. Published September, October and November 1944 issues.

EQUIPMENT and SUPPLIES



Honig Multiple Gathering Machine

UNIVERSAL Mono-Tabular Corporation has announced for postwar delivery the Honig Multiple Gathering Machine. This automatic machine will take sheets from 3 in. by 5 in. up to 12 in. by 18 in. Other models taking larger sheet sizes can be made.

Manufacturer states this model will handle about 99% of a commercial plant's run-of-the-hook work which must be gathered. The machine will gather up to sets in sextuplets in one operation, with a back inserted in sets of 25, 50, 75, or 100 to the set. Other models can be assembled to gather sets up to any given number in one operation.

Capacity is in excess of 30,000 sheets per hour, ready for padding. The machine may be slowed down for numbering jobs if it is desired that the work be checked. It is claimed the machine will handle the production of six high speed presses in one operation.

Further information furnished by the manufacturer is that duplicate sets may be gathered three-up, triplicate sets two-up. Duplicate or triplicate sets may also be gathered singly for numbered jobs. It is designed to handle snap-out jobs readily with odd lengths of sheets to the set. Calendars can also be gathered by two operations through the machine.

There are three controls to set for beginning operation.

All stock pile high controls are automatic and separately controlled to compensate for various thickness of paper in order to maintain all pile-high levels simultaneously during its operation. All stock piles are raised to exact height position by one control, by means of which the feed racks can be lowered to low levels. All of the side guides are moved in and out by one control.

In operation, a feed or suction rod equipped with bronze cups, and extending the length of the machine, operates from the top of each stock pile. The adjustable suction cups mounted on the feeder rod pick up a sheet simultaneously from each pile and inserts them simultaneously into the compartments.

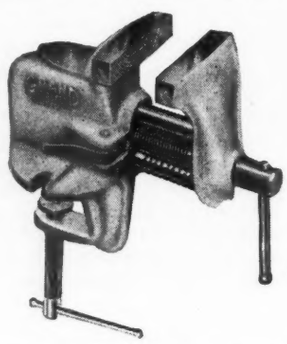
In the conveyor bed are fitted seven permanently mounted compartments. The compartments are slotted to permit sets of fingers to travel through. The fingers are fastened onto chains driven by sprocket wheels on each end of the machine. The fingers gather first a card back as desired for the set, then it carries the card stock and pushes it under the sixth, then the fifth, etc., to the original. The complete set is then delivered into the jogger. The same operation continues with the exception of picking up and gathering a back until it is needed for the next pad, which may be 25 or the quantity desired.

Floor space required corresponds to that of a small cylinder press or a bindery table.

For further information write to Universal Mono-Tabular Corporation direct, or *Printing Equipment Engineer* will be glad to pass along your request. An illustrated four page bulletin is available upon request.

Grand's Quickcet Bench Vise

GRAND Specialties Company announces a new bench-type vise which is manually operated but the design of which is such that running in or out



the screw to close or open the vise is eliminated. The vise carries 3 in. jaws and may be opened to 3 in. between the jaws.

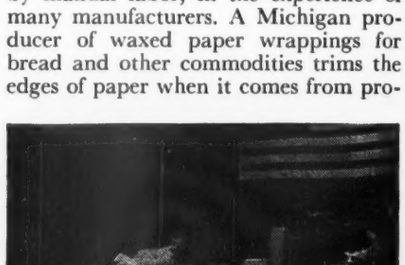
The vise may be set and closed by pushing on the body of the free jaw which slides in on a ratchet screw and two guide rods. The jaws may then be tightened by a turn of the handle. The vise is supplied with a release pawl with ¾ in. of threads which holds the screw under spring tension.

Manufacturer states vise is made of an alloy steel of greater than forged capacity suitably reinforced for strength. Jaws are serrated, polished and hardened integral with the body. The vise is spatter-proofed on all working parts and is rust-proofed with gray wrinkle enamel finish. The anvil is polished on top. Supplied with bottom screw clamp for removal as well as with usual slots for bolting permanently to bench.

Further information may be obtained from Grand Specialties Co. direct, or through *Printing Equipment Engineer*.

Handling Bulky Loads By Truck

LIGHT-WEIGHT material in bulk can be handled more economically by means of power equipment than by manual labor, in the experience of many manufacturers. A Michigan producer of waxed paper wrappings for bread and other commodities trims the edges of paper when it comes from pro-



cessing machines. Most of the "trim" is a little wider than ticker tape, yet tons of it accumulate quickly.

Large bins mounted on dollies are used to receive the trim. For a time it was the custom to push the bins manually to the plant's platform when they were filled where their loads were transferred by hand to road trucks. The company finally made a regular practice of using one of its Elwell-Parker high-lift platform trucks to perform this operation. It found this to be an "all-around more satisfactory method".

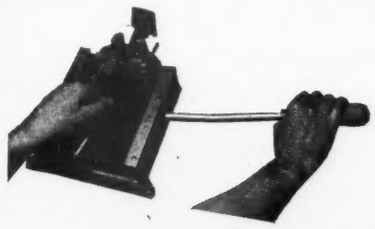
The loaded bin can be elevated to any height by the truck mechanism. When the hinged front of the bin is dropped, most of the load, which is of a slippery character, slides of its own weight into the body of the road truck.

Cable and Wire Stripper

A WIRE stripper for stripping rubber insulation, asbestos, synthetic, plastic, glass, cambric and other insulations is announced by the Ideal Commutator Dresser Company.

Any length of wire or cable, up to ⅝ in. diam.—single or parallel conductor

can be stripped. Plain or grooved blades are used depending upon the type of wire.



Parallel wire, heater cord, inner conductors and POSJ cord can be stripped with plain blades. The grooved blades are intended for rubber covered and weather-proof cable.

To use the stripper, the wire is laid in position between the jaws and cutting blades and the lever is then pulled. This causes the gripping jaws to grasp the wire and draw the wire through the oscillating blades. The pulling action is in a straight line and eliminates scraping and nicking of wire.

ATF Portable Offset Camera and Platemaking Machine

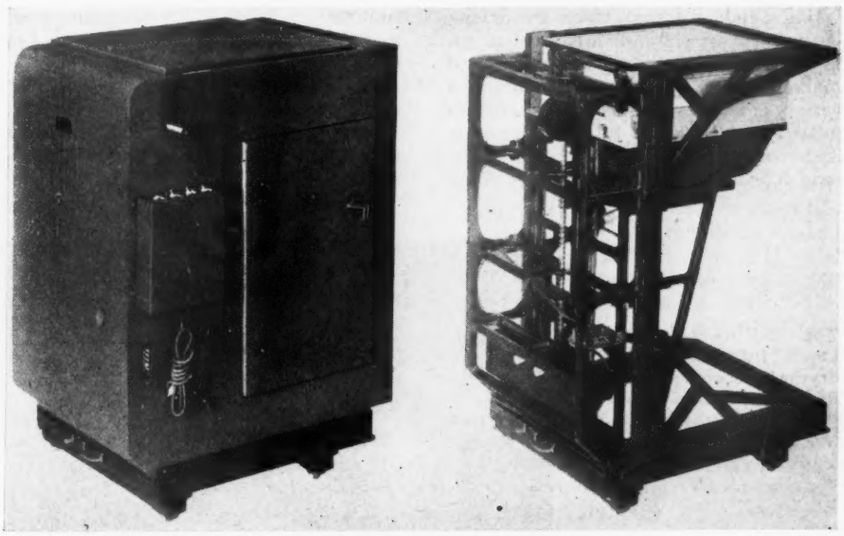
A PORTABLE precision offset camera, and portable offset platemaking machine, both developed by American Type Founders for our Armed Forces and already widely used in the various war zones, are now being released by ATF for civilian use.

The camera is a compact, all-purpose instrument for copying, enlarging, and process work, suitable for use in darkroom, gallery, or duplicating plant. It can be used for copying or enlarging cut negatives as well as roll film, as a still projector, a halftone process camera, and as a contact printer. Overall size of the entire unit is 24 in. wide, 32 in. deep, and 43 in. high when closed, and extends to 64 in. high when opened to maximum position.

It is contained in a light-tight metal enclosure, for use outside of the darkroom, with a door on one side for access to the interior. This enclosure also provides a dust-proof cover protecting lens, film or paper, and operating parts of the camera when stored. Complete unit is suspended on vibration - absorbing mounts of special design.

The platemaking machine is designed for plates 15½ in. by 20½ in., and incorporates six units: Plate Whirler, Vacuum Printing Frame, Printing Lamp, Light-top Layout Table, Plate Developing Trough, and Plate Rubbing-up Table It is compact and weighs less than 200 lbs., and can be moved into working position by two men. All units are accessible at operator's waist level. Electric controls and switches are located in a single panel at front of machine.

View of ATF Offset Platemaking Machine. This is Model No. 2 and will handle plates 15½ in. by 20½ in. Machine consists of whirler, vacuum printer, developing trough, light top table, rubbing-up table and printing lamp.



View of ATF Portable Precision Offset Camera. Incorporates the following utilities: Vertical 14 in. by 17 in. copying camera, Horizontal 20 in. by 24 in. copying camera, 14 in. by 17 in. projector, 11 in. by 14 in. enlarger, 14 in. by 17 in. contact printer, roll film projections, enlargements and contacts. The copyboard measures 20 in. by 24 in.

These two units are now available to holders of the proper priorities, and complete details can be obtained by writing to the manufacturer or through *Printing Equipment Engineer*.

Miehle Postwar Presses

AT A recent New York Craftsmen's club meeting several executives of the Miehle Printing Press & Mfg. Co. revealed some details pertaining to the presses to be manufactured by Miehle in the postwar period.

The present Miehle Horizontal press will be replaced by a new 22 in. by 28 in. size typographic press. Having been introduced in 1941, several of these presses were being tested in as many printing plants. The press will be supplied with a chain delivery and the design of the machine will be such that it will be easily accessible to the pressman. The press will have a speed of 4500 i.p.h. because of a new bed motion. Like other Miehle presses, the bed motion is back and forth. The major difference, however, between the new and old presses is that the new press has been redesigned so that the bed has an uneven stroke. The bed averages 3000 on the printing stroke and 6000 on the return stroke. Thus the non-printing motions of the press bed are cut down appreciably. Due to its sheet size, the 22 in. by 28 in. press is double the bed size of the Vertical press.

Before the war, Miehle's Intaprint Division developed a 42 in. by 58 in. sheet-fed gravure press. One of these is operated by Donnelley's in Chicago; two in the Beck Engraving Co.'s plant, Philadelphia. One each 29 in. by 43 in. two-color and single-color presses, called the No. 44, are operated respectively by J. C. Dillon Co., New York, N. Y., and by Photogravure & Color Co., in the same city. Miehle's postwar plan is to proceed with the manufacture of the No. 44 press. An executive of the company said that the weakness in the development of sheet-fed gravure presses consists of the problem of getting photo-engravers to make plates for them. However, this may be overcome by licensing photo-engravers in larger cities to make plates by the Intaprint process at reasonable fees.

Vinylite Plastics for Electrotype Molds

PRINTING Materials Div. of Bakelite Corporation has issued a folder in which are discussed the properties of Vinylite plastics for making electrotype molds. The material for this application is described as a sheet of tough plastic that is odorless, non-toxic, and does not support combustion. The mold made from this material is dimensionally stable. Maintains its size and shape under temperature and humidity fluctuations, and does not warp or shrink under aging. At room temperatures, Vinylite plastic rigid sheet resists deformation under pressure. It is claimed to be outstanding

for its resistance to chemicals—excepting certain organic solvents.

Vinylite electrotype mold material is furnished in sheets 20 in. by 50 in., 0.030 in. thick, is supplied in two colors — olive drab and black in highly polished and dull matte finish.

Some of the claims made for Vinylite plastics for electrotype molds are as follows: (1) Outstanding accuracy for color work; (2) Printing definition equal to that obtained with finest lead molds; (3) Molds are practically indestructible and may be filed for future use; (4) Rounded contours facilitate easy cleaning and sensitizing; (5) Mold can be peeled easily from finished shell, yet the shell remains flat; (6) Molds are lightweight; (7) Molds can be pressed flat and reused for new molds; (8) For advertising purposes, molds may be shipped in packages which, together with the molds, are light in weight.

A bulletin upon the subject may be obtained from Bakelite Corporation, Printing Materials Div., direct.

Full information about the equipment required for the production of Vinylite plastic electrotype molds may be secured from The Monomelt Co., or the Stereotex Machinery Co. *Printing Equipment Engineer* will be glad to pass along your request for further information to any or all three companies.

The splined spools in the carbon paper rolls for business machines shown here are cut from extruded lengths of Tenite plastic.

Tenite Spools for Carbon Paper Rolls

SPOOLS for carbon paper rolls used on business machines are now cut from continuously extruded lengths of Tenite plastic. This innovation is claimed to drastically reduce the amount of material used and to cut down on production time and cost. The Tenite spool replaces one of wood which was made with a square hole to receive the square metal mandrel used to turn the carbon roll. The Tenite spool, extruded in tubular form, is provided with eight spines on the inner surface to grip the mandrel and hold it in place. Tenite is light in weight, yet exceptionally tough. It is uniform in texture and therefore does not split or crack. Another feature of the Tenite spools is their use of color. Four colors—gray, green, orange, and white—are employed to identify four grades of paper.

Announces Increase in Fluorescent Lamp Efficiency

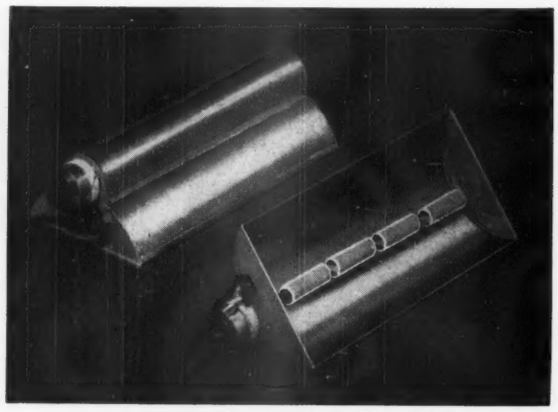
SYLVANIA Electric Products, Inc., has announced it has increased the lumen output for its standard 20 w. and 40 w. white fluorescent lamps. The new rating for total lumen output from 20 w. lamps after 100 hours operation, company states, is increased to 880. Previous rating was 860. In the 40 w. size, the corresponding rating has been increased from 2080 to 2160 lumens. Rated average lamp life for both of these sizes is 2500 hr. in 3 hr. cycle service, 4000 hr. at 6 hr. cy., and 6000 hr. at 12 hr. cy.

Doyle Infrared Dryer

THE Doyle Infrared Dryer for drying ink on freshly printed sheets on printing presses and for use on all makes of folding machines is made in a variety of lengths suitable for application to various press sizes. In the illustration is shown a standard unit which is 18 in. long. The width of the reflector is 8⅛ in., and its height is 5 in. Also supplied are 12 in., 22 in., 24 in., 36 in. and 56 in. lengths. Other sizes are available.

The cores of the Doyle Infrared Dryer are made of refractory porcelain with grooves to take 60 turns of No. 23 nickel chromium wire. Windings at the end of the core do not slip off. Reinforced connecting ears reduce heat and furnish the resiliency needed to cushion vibration and shock. Multiple coils may be used to obtain any required degree of heat.

Each coil uses 3 amp., 110 v. On higher voltages the coils are connected in series. Dimensions are 3¼ in. long by 1¼ in. diam. Thickness of wall is 3/16 in. Length of connecting ears is 3½ in.



Top and inside views of Doyle Infrared Dryer for drying sheets on presses and folding machines.

Portable Steel Desk

A PORTABLE desk especially adaptable for foreman and shipping clerks, has been announced by Lyon Metal Products, Inc.

The portable model shown in the accompanying illustration is supplied

with 3 in. swivel casters and has a brake attachment. The overall size of the unit is 34½ in. wide, 30 in. deep and 53 in. high (43 in. high in front).

The desk hood provides space for the storage of working papers and has a 30 in. desk top with a 3 in. overall slope. The drawer is 24 in. by 28 in. by 3½ in. size and is equipped with a lock.

For further details contact Lyon Metal Products, Inc., or *Printing Equipment Engineer* will pass along your request.

Flex-Back Bookbinding Adhesive

National Adhesives announces development of a cold liquid synthetic resin adhesive of high flexibility property that permits rounding and backing of books within 15 to 20 min. after gluing-off.

Flex-Back, it is claimed, dries rapidly, even on very damp days and does not swell the backbone of the book. It is also claimed that Flex-Back deposits a tough film of high adhesive quality, yet one which does not dull trimming knives.

This adhesive is ready for use and can be diluted with small quantities of water.

National Adhesives asserts that Flex-Back is being used on large reference books and permits the pages of the open volume to lie flat.

If you are interested in obtaining further information about this product, you may address National Adhesives direct, or *Printing Equipment Engineer* will be glad to pass along your request.

H. S. McKinley is now mechanical superintendent of the Marion (Ind.) *Chronicle* and *Tribune*, both morning and evening editions. Formerly, Mr. McKinley was superintendent of the Anderson (Ind.) *Daily Bulletin*. He was associated with the latter paper for 19 years.

Photo-Engravers Research, Inc., Gets Under Way at Battelle

CONTRACT arrangements for an intensive program of research on the development of improved methods of manufacturing photoengravings have been completed between Battelle Memorial Institute, Columbus, O., and Photo-Engravers Research, Inc., according to an announcement by Clyde Williams, Battelle director.

The program, to get under way in the near future, will be the first major effort at cooperative research to be made by the photoengraving industry. It will be supported initially by forty photoengraving firms throughout the United States, which firms constitute the membership of Photo-Engravers Research, Inc.

Officers of Photo Engravers Research, Inc., are Everett Bierman, Charlotte Engraving Co., Charlotte, N. C., president; E. H. Salmon, Carolina Engraving Co., Columbia, S. C., first vice president; David Orans, Quality Photo-Engraving Co., New York, N. Y., second vice president; and George F. Hoffmann, Dixie Engraving Co., Savannah, Ga., secretary-treasurer.

The research program will be supervised by a research committee of Photo Engravers Research, Inc., composed of Phillip Ahrenhold, Conde-Nast Publications, Inc., New York, N. Y., chairman; Gene Meston, Capital City Printing Plate Co., Des Moines, Ia.; E. H. Salmon, and George Hoffmann.

The laboratory work at Battelle Institute will be under the supervision of Dr. R. M. Schaffert, supervisor of the Institute's Graphic Arts Division. Cooperating in the laboratory phases of the work will be the various specialists of Battelle's metallurgical, chemical, engineering, physics, and production research divisions.

Battelle Institute is an endowed foundation for the training of scientists and technologists, and for industrial and fundamental research. It conducts research for industry on a nonprofit basis.

Harold Hurd has been appointed sales and service manager of General Printing Ink Corporation of Canada, Ltd. Mr. Hurd has been serving printers and lithographers in a similar capacity for twenty years. He will make his headquarters at the Corporation's Toronto office located at 821 Queen St., East.

Restrictions on Manufacture of New Printing Machinery Lifted by Revocation of Order L-226

Equipment Waiting Period

ON May 16, the War Production Board announced that Limitation Order L-226 had been revoked. This order controlled the production and delivery of printing equipment. Revocation of the order removed restrictions on the manufacture of new printing machinery. Buyers are now free to accept delivery and manufacturers are free to deliver equipment without the necessity of filing Form WPB-1319 for authorization.

WPB officials, however, explained that it will probably be eight or nine months before equipment that has been completely out of production will be available. Manufacturers who have been engaging in limited production of other groups of machinery must fill their present rated orders first.

This is explained as follows:

From time to time, equipment manufacturers and government spokesmen have stated that printing equipment manufacturers have been heavily converted to the production of war equipment and materials. Over twenty of them have been awarded Army-Navy "E"s for excellence in war production. It will be seen that continuation of present war contracts will make the immediate and complete reconversion of some plants impossible. Other anticipated limiting factors in getting under way with equipment manufacture are delays in getting new materials and local manpower restrictions.

Officials said that it will not be the policy of WPB to grant priority assistance for printing machinery, officials said. Exceptions may be made only where continued volume of war contracts for printing indicates that priority aid should be granted to further the war effort, or where emergencies such as fires, floods or complete breakdowns of present equipment have taken place, suspending operations. In such cases application for priority assistance may be made by filing Form WPB-541 with the nearest WPB district office.

LTF Has New Home

The Lithographic Technical Foundation has just announced the purchase of a property at 131 East 39th St., New York, N. Y., which will serve as administration and educational department headquarters of the Foundation in New York. The purchase has been made possible through a special fund contributed by representative lithographers and suppliers in all parts of the country and is entirely separate from the regular endowment and annual operating funds of the Foundation.

The building, which is a four-story and English basement residence, is located in a convenient location in mid-town New York. It is just east of Lexington Avenue on 39th and three short blocks from the Grand Central depot and many of the mid-town hotels. It is expected to be ready for occupation in June.

The building is a former brownstone residence and embodies 16 rooms which may be readily adapted to use by the Foundation staff.

Those who are working with the architect and contractor have looked favorably upon the idea of creating solid mural effects from selected, colorful, full sheets of lithography. This treatment is planned for one wall only in four of the main rooms of the headquarters. Other walls and surfaces will be handled in pleasing and contrasting pastel colors.

Announces Appointment

Battelle Memorial Institute, Columbus, Ohio, has announced the appointment to its staff of J. Robert Van Pelt, who has assumed responsibility for an expanded program of research education.

IT APPEARS that the revocation of order L-226 by WPB along with revocation of many other orders controlling the manufacture of equipment in various industries is the first step in a gradual relaxation of the controls exercised by WPB. Just when substantial relaxations will occur which will permit manufacturers to resume normal peacetime pursuits is anybody's guess. The Open-end CMP (effective July 1) will bring about gradually a supply of raw materials (steel, copper and aluminum) to individual manufacturers which can be applied to civilian fabricating purposes. This transitional period is complex. Perhaps the newly-selected industrial reconversion chairmen will be the means of assisting immeasurably in smoothing the path.

Meanwhile, as is pointed out in the WPB release printed above, many manufacturers, including printing equipment makers, are engaged almost wholly in war work. Revocation of L-226 doesn't mean that they can convert overnight into civilian activities.

WPB makes the statement that "other anticipated limiting factors in getting under way with equipment manufacture are delays in getting new materials and local manpower restrictions."

To which might be added the statement that some time will be required to retrain skilled employees (as well as many new ones) who have been engaged in war equipment manufacture for a period of three years or more.

In any event, we feel that management of control relaxation by WPB and reconversion by equipment makers is a terrific problem and should be regarded by printers and publishers with utmost patience and understanding.

Van Pelt formerly was technical director of the Museum of Science and Industry, Chicago. Battelle announced concurrently with the appointment of Van Pelt that it will greatly expand the program of research education which was curtailed by the exigencies of war. Battelle fellowships, after 15 years operation at Ohio State University, will now be made available in a number of other institutions of higher learning to highly qualified graduate students.

Carnegie Tech Notes

Classes in the Department of Printing at the Carnegie Institute of Technology will be suspended during the summer months, June through September. Instruction in the Department will be resumed in October, and subjects in all four years of the undergraduate degree course and the course for college graduates will be taught. This is the first interruption of instruction since September, 1941, when the school began operating on a twelve months per year basis. Prospects for increase in enrollment in the fall are extremely favorable.

The endowment program of the Department, through which half a million dollars is being sought, is being successfully carried forward. Contributions and pledges to date total approximately $200,000, leaving $300,000 to be raised before the July, 1946, deadline. For each dollar raised before that date, the Carnegie Corporation of New York will contribute two dollars.

Recent contributions have been received from Arco Manifolding Co., New York; Carnegie Institute Press, Pittsburgh; Hugo L. Bonn, East Orange, N. J.; Sgt. Irving Levinson, Mediterranean *Stars and Stripes*; and Capt. Donald H. Opel, Army Air Forces.

Sponsor Scholarships

A number of New York state newspapers are sponsoring scholarships in publishing and printing at the Rochester Institute of Technology, Rochester, N. Y., for the school year beginning next September. Each scholarship will cover tuition of $250 for one complete year of study.

High school graduates in a city or immediate vicinity of a sponsoring New York newspaper, or those who will graduate in June, are eligible for the scholarship. The applicant may be either a boy or a girl who is interested in a career in publishing and printing.

MAGNESIUM FOR PHOTOENGRAVING

By HAROLD T. BURNS*

**The Edes Manufacturing Co., Plymouth, Mass.*

REFERENCES to magnesium as photoengraving metal in the April 1945 issue of the *Photo-Engravers Bulletin* have aroused considerable interest. Both references point out that the use of this metal in the United States is still in the experimental stage and that little definite information is available.

As Editor Louis Flader points out, there is nothing new about magnesium for photo-engraving. In fact, many remember when a German-made magnesium alloy known as "Elektron Metal" was introduced in this country about twenty years ago.

During one period of the war, the Germans deluged South American publications with magnesium photo-engraving plates on which were engraved halftones depicting the power of the nazi military machine. These plates were engraved on metal approximately 0.01 in. thick and were shipped by air unmounted to South America. Shortly after we entered the war one of our propaganda agencies investigated the possibility of United States photo-engravers making similar magnesium cuts to ship by air to Latin America and European "underground" newspapers. Obviously, finished cuts in this form were more likely to be printed than photographs or even mats. However, at that time the United States was desperately in need of magnesium and had more vital uses for the light metal than for photo-engraving propaganda cuts.

Pre-War Experiments Here

Before the war considerable experimental work was done in this country by producers of magnesium working in conjunction with grinders of photo-engraving metal, including The Edes Manufacturing Company. About seven years ago one of the metal trade magazines published a lengthy article on *Magnesium Alloys for Photo-engraving*, illustrated by halftones made by the Ad-Service Engraving Company of Cleveland, on American-rolled magnesium plate.

The first question that most photo-engravers ask is: What is it going to cost for magnesium sheets? Currently, magnesium photo-engraving plate, even for experimental use, is available only in one size and one gauge, 18 by 36 by 0.064 in. The tentative price approved by the OPA for magnesium plate in the only available size is $5.50 per sheet, and this may be revised up or down depending on many factors. The following comparison gives some idea of the relative costs of engraving metals on a surface basis which, after all, is what interests the photo-engraver.

Engraving Metals—18 in. by 36 in.—16 gauge (0.064 in.)

Metal	Price per Sheet	Weight per Sheet
Zinc	$2.26	11.00 lbs.
Triplemetal	2.68	10.75 lbs.
Brass	5.23	12.81 lbs.
Magnesium	5.50	2.75 lbs.
Copper	6.43	13.33 lbs.

It is our opinion that magnesium will develop as an in-between metal for certain uses that give each an advantage over either zinc or copper in a particular application—direct cylindrical printing, for example.

Superabundance of Magnesium

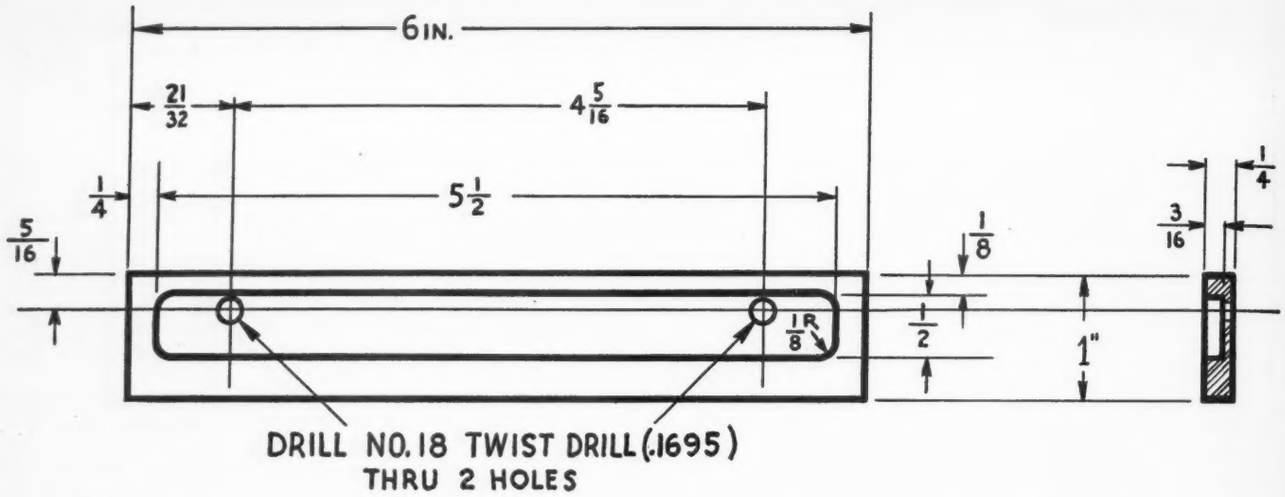
Up until about a year ago magnesium was still one of the critically scarce metals. But the Government, which controls most of the magnesium fabrication in this country, now has a superabundance of the light metal. In an effort to use up the available supply, magnesium is being used to replace wooden pup tent pegs carried by combat soldiers. Although priority regulations still prevail in scheduling the production of sheet magnesium, it may be purchased without priorities and used without restriction for photo-engraving.

However, before you rush an order to your supplier with the idea that you have nothing to lose by buying twenty-five magnesium sheets, it would be well to consider these facts. There are no figures available that would enable you to know what your production costs would be, and this fact is emphasized in the articles appearing in the April *Photo-Engravers Bulletin*. Furthermore, the proper technique for handling this alloy in the photo-engraving shop has not been conclusively established. Experimental work in recent months has been handicapped for lack of manpower in engraving plants. You can appreciate why progress is slow when you realize that the first step recommended in etching magnesium is the scrubbing of the etching tank to be sure it is completely free from zinc salts. Your supplier can give you suggestions on handling this alloy, but you will have to learn about magnesium through trial and error. You will quickly learn that magnesium is much different from any other alloy now in common use by the trade. There are some magnesium sheets available for photo-engraving, but if any number of engravers send orders to suppliers, deliveries may take two to three months and possibly longer.

Possible Fire Hazard

Almost everyone knows magnesium as the powder used before the days of flash bulbs to illuminate photographic subjects at night, and as an element that was used in incendiary bombs during the London air blitz. So we have come to think of it as a highly inflammable substance that hardly belongs in your plant when the replacement of photo-engraving machinery is well nigh impossible.

(*Continued on Page 92*)



Intertype Pot Mouthpiece Baffle Plate Remover

By HAROLD C. JOHNSON*

**Chief Composing Room Machinist, Columbus (O.) Dispatch.*

ACCOMPANYING this article are two drawings illustrating an Intertype metal pot mouthpiece baffle plate remover designed by Harold Johnson, Chief Composing Machinist of the Columbus (O.) *Dispatch*. In time, the baffle plate and interior surfaces of the mouthpiece accumulate oxides from the action of the molten metal against it, in which case it is necessary to remove the mouthpiece from the pot to permit removal and cleaning of the parts including the baffle plate itself.

Removal of the baffle plate from the mouthpiece is expedited by the remover shown with specifications in the accompanying illustrations. Sometimes it is a difficult matter to remove the baffle plate readily, but with this tool removal is easy.

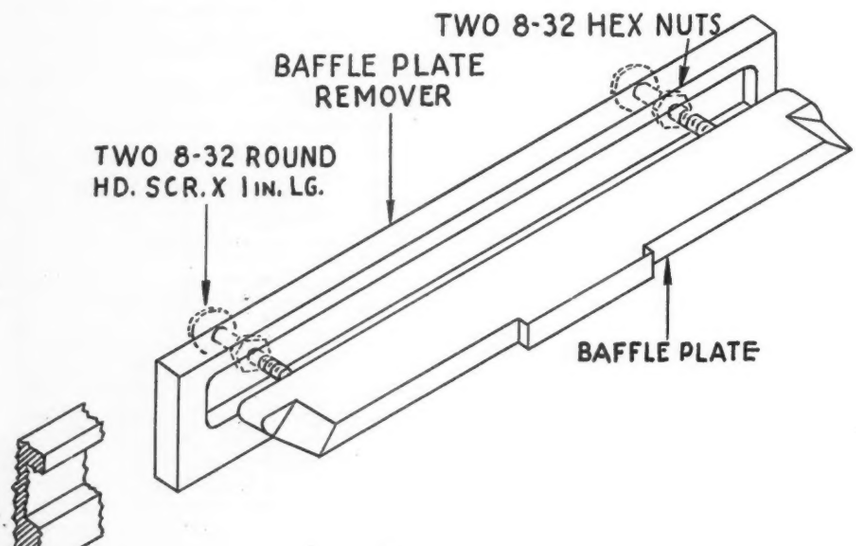
Mr. Johnson states it is advantageous to have an extra mouthpiece on hand, especially in cases where the machine must be put in running condition again within a short time. When cleaning of the mouthpiece is necessary, the extra one can be applied and the one that needs cleaning can be soaked in penetrating oil to assist in loosening the baffle plate.

In order to employ the baffle plate removing tool, it is necessary to carefully drill two holes in the back edge of the baffle plate with a No. 29 twist drill and tap them out with an 8-32 tap using care not to drill too deep into the baffle plate in such a way as to injure the sides.

The holes drilled in the baffle plate may be plugged with brass screws and dressed flush with the baffle plate surface to facilitate removal the next time. It will then be an easy enough matter to drill and tap out the brass screws to clear the holes for the "puller" screws.

Notice that the body of the remover is milled out to form a slot—dimensions are given in the drawing. The slot provides clearance when the baffle plate is pulled from its slot in the mouthpiece.

As is indicated in the illustration, Fig. 1, the 8-32 rnd. hd. steel screws are driven into the baffle plate. Then the extracting nuts may be turned with a wrench alternately a little at a time until the baffle plate is loosened.



Publishes Complete Clinic Report

The officers and directors of the New England Newspaper Mechanical Executives' Association has published a complete report of the proceedings of the seven clinics held at the seventh New England Newspaper Mechanical Conference, Boston, October 1944. The report consists of 108 pages and cover and is 6 in. by 9 in. in size.

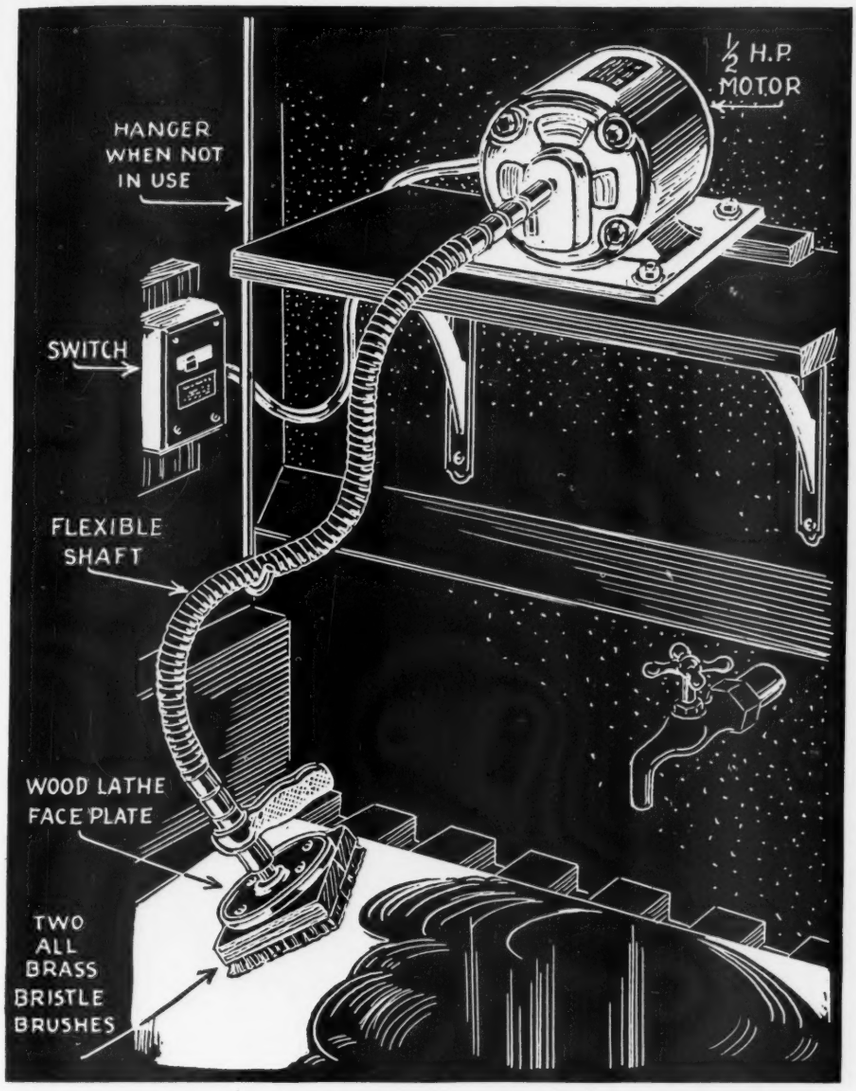
There is considerable reading matter, as will be evidenced when we tell you the type was set in 8 pt. The seven clinics covered are Stereotype, Machinists, Tubular, Photo-engraving, Flatbed, Pressroom and Composing Room.

A complete list of the registrations of mechanical executives and manufacturer and supplier representatives is included, as are all of the officers of the association.

This booklet represents an ambitious undertaking by a group the size of the New England association. It should be highly prized, particularly by those New England executives who could not attend the meeting.

Latin-American Contest

International Printing Ink Division of Interchemical Corporation and the National Graphic Arts Education Association, co-sponsors of the IPI Latin American Essay Contest announced today that First Prize of $250 has been awarded to Rodrigo G. Carrasco of Santiago, Chile for his essay entitled "How Printing Can Help to Prevent Another War".



Zinc Plate Resurfacing Tool

IN the accompanying illustration is shown a device for resurfacing photo-engravers' zinc plate stock. This tool functions as a resurfacer and a degreasant. Through its use the drudgery involved in doing this work by hand with pumice and water is eliminated. In some cases, too where zinc plate stock has been stored for a period of time, it is necessary to remove oxidation or corrosion from the working surface.

This equipment was devised by I. T. McQueeney, superintendent of the Columbus (O.) *Dispatch* photo-engraving department.

While the accompanying illustration really is self-explanatory, we will supplement that information by stating the flexible shaft in this instance was obtained from a dealer in wood-working equipment. It is approx. 4 ft. long. The wood lathe face plate is 4 in. diam. and was obtained from a same as above lathe. The wood - backed all - brass - bristle brushes are of the standard type obtainable from photo-engraving supply companies. The backs measure 2 in. by 4 in. The motor is one that the *Dispatch* happened to have on hand and is rated at ½ h.p. The shaft makes 1750 r.p.m.

Means for obtaining the necessary materials and fittings for the flexible shaft will suggest themselves to mechanical executives who may wish to provide themselves with a similar outfit.

EXECUTIVE ¶s

J. J. Ackell, who has been production manager of the *Wall Street Journal*, is made assistant general manager, and member of a newly formed executive committee, of Dow, Jones & Co., Inc., *Wall Street Journal* publishers, and all affiliated companies. Mr. Ackell will be in charge of all operations of these companies. Other members of the new executive committee are William H. Grimes, editor of the *Journal*, who has been appointed editorial director of all publishing activities of Dow-Jones and affiliated companies; Robert M. Feemster, who has been appointed assistant general

J. J. Ackell, formerly production manager of *Wall Street Journal*, is now assistant general manager.

manager in charge of sales of all publications and services, previously director of advertising of the *Journal* (New York and Pacific Coast editions) and Barron's; J. C. Hoskins, in charge of financial policy, and secretary and treasurer of Dow, Jones & Co., Inc.

E. G. (Mannie) Hubbell, former planning and scheduling manager of the Meredith Publishing Co., Des Moines, Ia., announces his new connection with the Neely Printing Co., Chicago. He will take over his new duties July 1. Mr. Hubbell is educational chairman of the International Association of Printing House Craftsmen. President Walter F. Schultz

Mannie Hubbell has associated himself with the Neely Printing Co., Chicago.

appointed Hubbell last August, a position which had been held by the late Douglas McMurtrie. Mr. Hubbell has not only furnished much material of great help to local clubs for their educational programs, but has also been in demand as a speaker all over the country. He appeared in St. Paul on May 24, in Duluth May 25, and plans to speak in Omaha, Neb. on June 13.

Richard H. DeMott, vice president in charge of sales, SKF Industries, Inc., Philadelphia manufacturer of ball and roller bearings, is observing his 30th anniversary with the company.

Especially proud of the fact that he served as mayor of Tenafly, N. J., he

(*Continued on Page 70*)

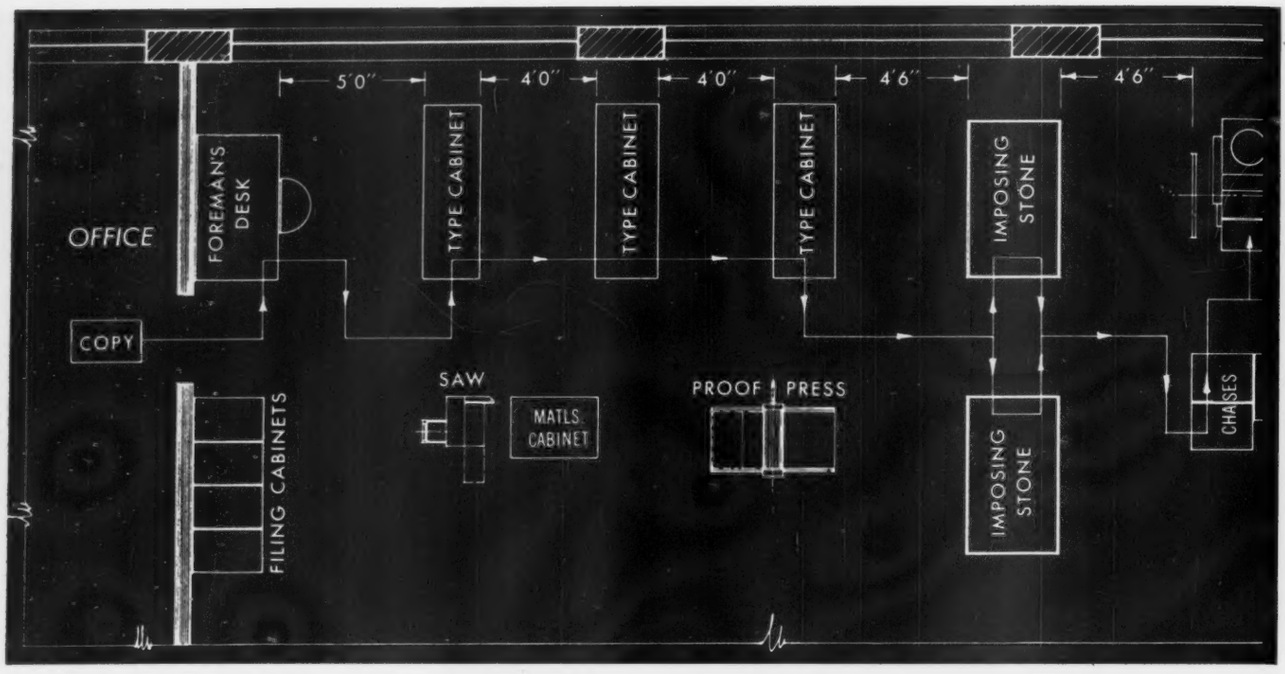


Fig. 1—Composing Room—Hand Composition

SPACE COUNTS IN PLANT LAYOUTS

Allowing sufficient working space between machines and equipment — Sequence of operations — Reducing walking and searching time to minimum

By A. C. ARNESEN[1]

THERE is no deep mystery about making a layout for a printing plant. Anyone familiar with printing processes can do it provided he acquaints himself with a few fundamental arrangement patterns and space requirements. Most printers in the past have sought the services of consulting plant engineers, equipment engineers and architects in planning their shops, but a few have tackled the job of revamping their own plants, and with real success, too.[2]

The increased interest manifested by printers in making their own plant layouts, especially in view of postwar planning, has prompted leading equipment suppliers to provide layout kits for the printers' convenience. These kits are available for the asking and contain floor plan sheets, template sheets, scale and tape, together with a manual of layout.

Fundamentally, there is only one reason for a printing plant layout . . . to make the plant more productive than it is, either by modernization or by expansion with adequate facilities.

The first question that usually pops up concerns the size and shape of the building occupied by the plant. When a preference is possible, the most desirable is a rectangular space where the ratio of length to width is about three to two.

Care must be taken to avoid buildings or rooms excessively cut up by stairwalls, elevators and other projections into the room. Objectionable physical characteristics of a room should be remedied at the time we make our plan . . . not when we place the equipment on the floor.

Ventilation, heating and sanitary facilities are factors affecting health and must be given every consideration. We must provide physical comfort and healthful surroundings if we expect to keep down absenteeism due to illness. Natural light is helpful, but excellent artificial lighting is available everywhere and is very desirable. After all, in most industrial buildings, natural light must be supplemented by a lighting system even on bright days.

We must not overlook conveniences which help to simplify stock handling, such as elevators, ramps, loading docks, etc. In the selection of the plant site there may be other points to bear in mind. Permissible floor load should always be verified with the local building authorities. If an upper floor of a building is to be occupied, are there elevators of sufficient capacity or must rigging facilities be provided?

The foregoing is, of course, predicated largely on removal to a new location. But, if a layout is to be made, whether in new quarters or present, the procedure for measuring the room is the same, and the following hints may be of help:

a. Take a sheet of paper and rule it in both directions so that you have ¼-inch squares. Let each square represent one foot (¼" = 1'-0"). This is a good scale to use because of its convenience in size and easy visualization. This is the floor plan sheet.

b. Measure the overall inside length and width of the room. Assume they are 74 feet and 42 feet. Draw the outline of the room on the floor plan sheet, 74 squares long by 42 squares wide.

EDITOR'S NOTE

HERE is another helpful article on some of the problems encountered in preparing plant layouts. Mr. Arnesen makes it plain that certain minimum working space is desirable between machines and also warns against too free use of floor space. Says he: "It is better to think of surplus floor space in terms of future expansion rather than of immediate utility."

Many plant executives, in contemplating layouts, are puzzled about proper working space between machines. In this article and in the accompanying illustrations, the author gives commonly accepted spacing. Knowing these, the plant executive will have much less difficulty in arriving at a practical miniature scale layout.

[1]Copyright 1945, A. C Arnesen

[2]Editor's Note—In fact, most of these men are always glad to have printing executives show an interest and to participate actively with them in plant planning and layout operations.

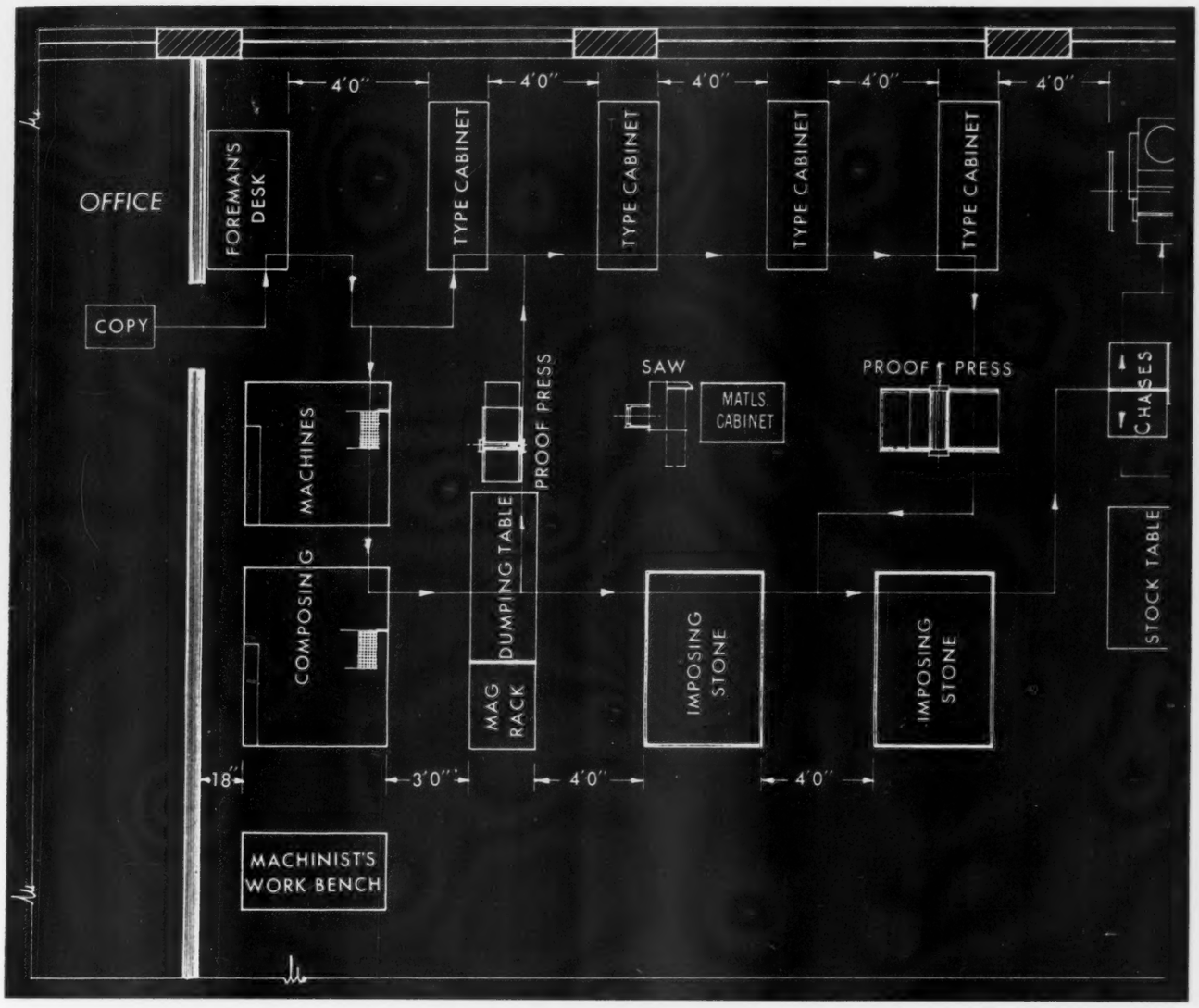


Fig. 2—Intertype or Linotype Group with Makeup and Lock-up

c. If there are columns or posts in the room, spot their locations from one wall, measuring from that wall to the center of the first column; then take the measurement, center-to-center between first and second columns, and repeat between remaining columns.

d. Then take the measurements of the columns at right angles to that in "b" from an adjacent wall.

e. Locate and measure all stairwalls, elevators or other projections into the room; draw them to scale on the floor plan sheet.

f. Show partitions where they may exist.

g. Show all openings, such as doors, fire escapes, etc., locate from walls or partitions.

h. Spot all interference, such as steam and water pipes, radiators, etc.

i. Windows should be indicated.

Equipment Templates

The floor space occupied by a machine or piece of equipment is fixed. We cannot change it, and hence the only variable we have to deal with is the space between the various machines and equipment. When making templates, do not include the working space required for the operator; make the template the actual size of the machine proper and to the same scale as the floor plan, one-quarter inch to the foot (¼" = 1'-0"). Use a fairly heavy paper for templates. For quick identification, different colors of paper may be used for different departments.

Fundamentals of Layout

To reach the objective—a good plan—there are several factors we must keep in mind. This applies to any type or size of plant. If we neglect them, we shall not arrive at a satisfactory solution to our problems. We must observe the following fundamentals to obtain anticipated results:

a. Flow of work must follow the shortest path possible from copy to shipping room in correct sequence of operations.

b. Equipment must be selected to permit operators to produce at maximum with safety and minimum fatigue.

We are all familiar with the routing of work in the general job shop. Copy comes from the office and work proceeds in numerical sequence:

1. **Hand or machine composition**
2. **Make-up**
3. **Lock-up**
4. **Pre-makeready**
5. **Makeready**
6. **Presswork**
7. **Folding, Punching, Perforating, etc.**
8. **Trimming**

True, some of these operations may be combined, or even omitted, but they will always follow the same 1,2,3,4 sequence if straight line production is to be realized. This applies to newspaper, trade or publications plants as well as to job shops. Obviously, in the plant layout, equipment pertinent to these operations must be aligned in the same 1,2,3,4 sequence. Any departure of arrangement from this, such as 3,4,1,2 would destroy the logical sequence, and hence the flow of work.

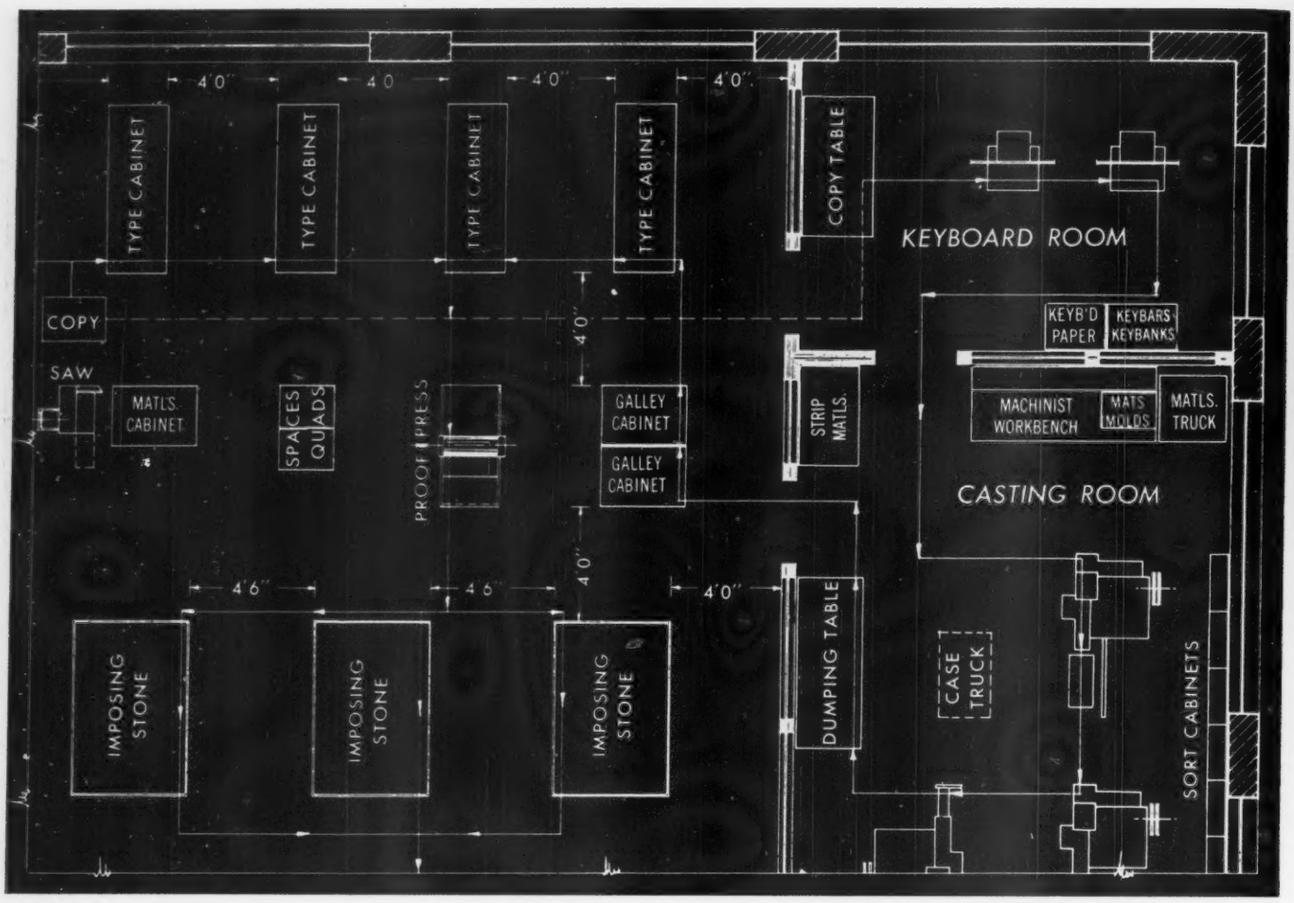
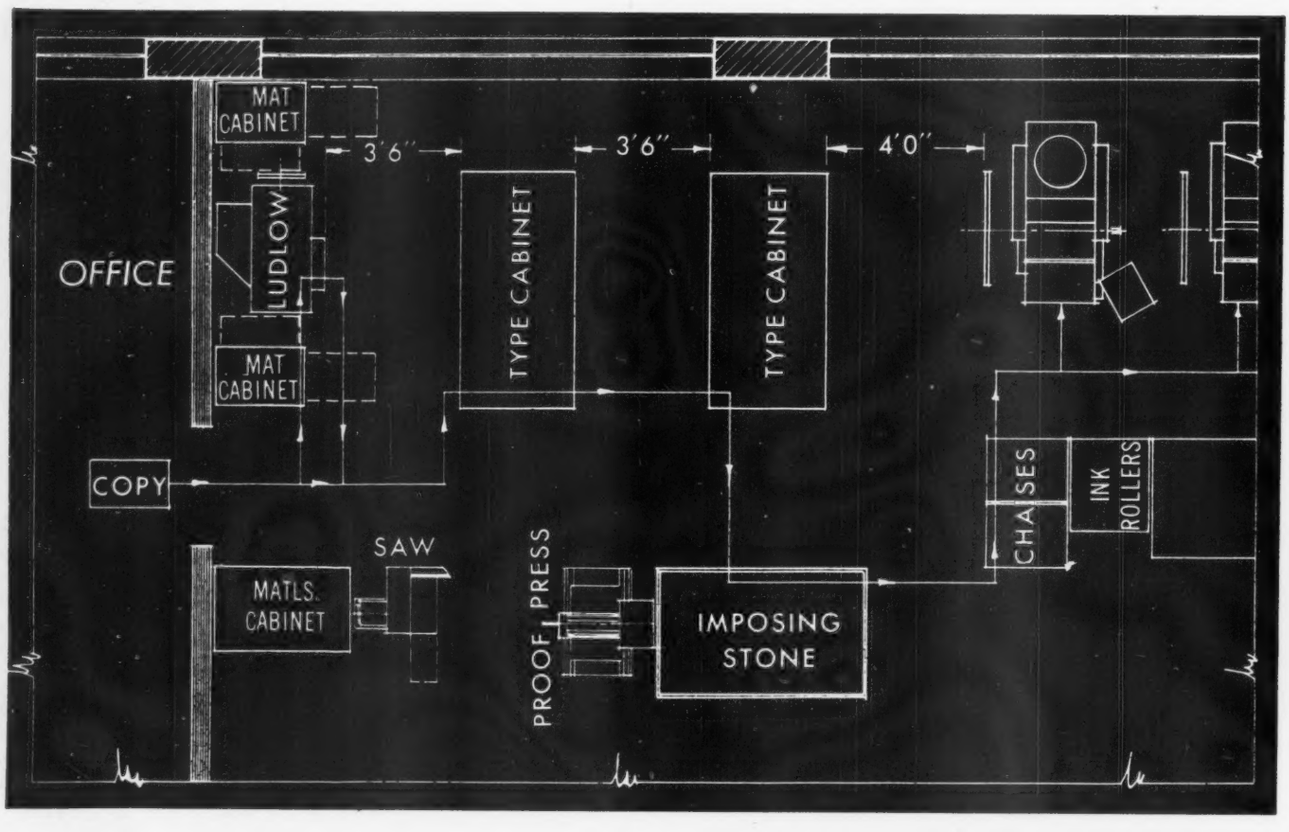


Fig. 3—Monotype Keyboard and Casting Rooms, Makeup and Lockup

Fig. 4—Ludlow Makeup Installation



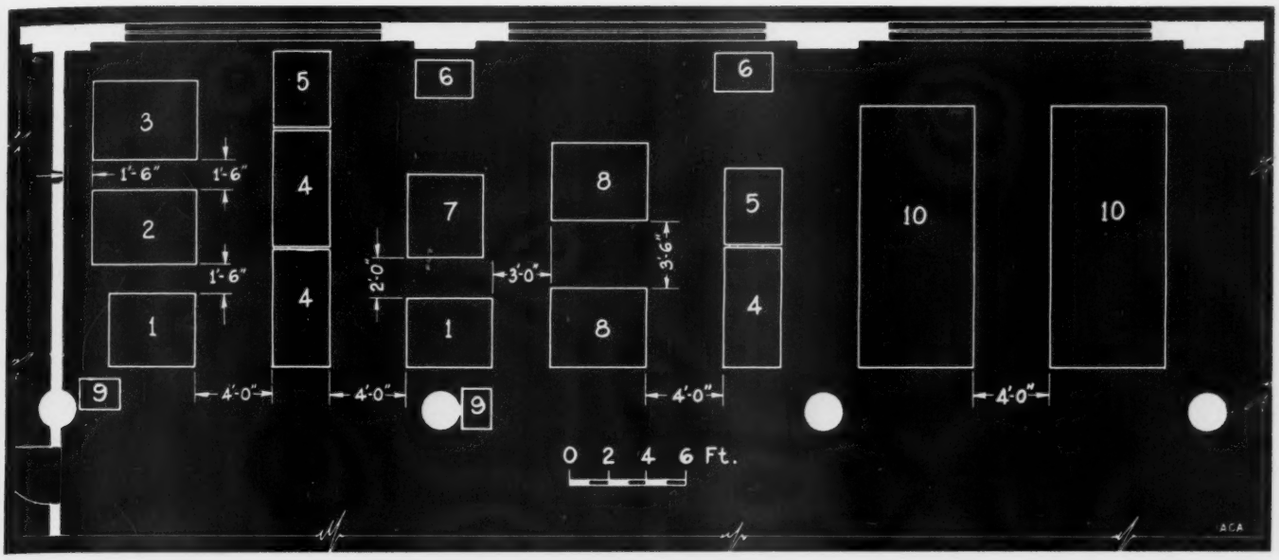


Fig. 5—Platen Press and Automatic High-Speed Cylinder Pressroom

Legend:
1. C&P 10x15 Open Press
2. C&P 10x15 Rice Unit
3. C&P 12x18 Rice Unit
4. Stock Table
5. Ink and Roller Cabinet
6. Makeready Table
7. Colt's Armory 14x22 Press
8. Miehle Vertical Press
9. Chase Rack
10. Style C Kelly Press

Traffic aisles run between 4'-0" and 5'-0". This dimension, however, is flexible as are those given above. These are average figures. Circumstances may force us to reduce them, but it is unwise to expand them excessively even though there is floor space to spare. It is better to think of surplus floor space in terms of future expansion rather than of immediate utility.

Auxiliary equipment such as saws, proof presses, reserve material cabinets, galley cabinets for work in process, etc., must be centered on the type cabinets for easy and quick access. Although Fig. 1 shows a relatively small number of type cabinets, a larger installation would require additional units of auxiliary equipment.

The arrangement in Fig. 1 indicates that the work goes in one direction progressively from copy to presses.

Composing Machines

The use of composing machines (Intertype or Linotype) does not change the picture very much. It adds a source of composition. Fig. 2 shows, besides the makeup and lockup, two Intertypes or Linotypes with their attendant equipment. Adequate dumping and correcting facilities must be provided if the full utility of these highly productive machines is to be realized. Following are the spacing dimensions in common practice:

From step of machine to wall—Intertype ..... 2'-0"
From step of machine to wall—Linotype ..... 1'-6"
Side clearance between machines ..... 1'-8"
Operator's space ..... 3'-0"

If Monotype equipment is used, we should isolate it by a partition as shown in Fig. 3. It is well to separate the keyboards from the casters also. The auxiliary equipment necessary to handle the output and maintenance of this equipment is indicated. The table on this page gives Monotype spacing data:

A typical unit installation of a Ludlow caster and mat cabinets is given in Fig. 4. Before another caster is added, however, the normal growth would be the addition of more mat cabinets. In this instance it would require an adjustment of the type cabinets to accommodate them.

In all the preceding composing room layouts we have dealt with comparatively few pieces of equipment, in fact, only in quantities we should find in the smaller plants. Nevertheless, the principles of spacing and layout patterns are the same, and auxiliary equipment to support major units is merely expanded to meet the requirements of larger installations.

Pressroom

In smaller plants, platen presses are customarily lined up along an outside wall where there are windows. The operators face the windows so that the light falls directly on the platens. There is no reason why departures from such an arrangement are not superior in several ways. Take, for example, the layout in Fig. 5. This is a unit group installation. Variations of it can be effected to conform to almost any shape of available floor space. Source of light may be from windows in the wall supplemented by good artificial lighting, or skylighting. The dimensions shown are average.

The small automatic presses are placed most frequently adjacent to the platens. In Fig. 5 we have a group of such presses. The best practice is to place the deliveries close to the source of natural light unless skylighting is provided. The dimensions of working spaces given are on the generous side; actual conditions may reduce them. Observe the use of auxiliary equipment: stock tables, drying racks, chase racks, makeready tables, ink and roller cabinets, stock trucks and stone for corrections.

These are necessary for proper functioning of these departments.

In most installations of large cylinder presses, we are confronted with the problem of columns and are limited commonly to one press per bay (space between two columns). This is advantageous in one respect as it gives us ample space to drop a skidful of stock and leaves the main traffic aisles free. In some instances, depending on column spacing, it might result in waste space. In Fig. 6 we have a typical cylinder pressroom layout where there is an uninterrupted flow of work. Arrows indicate movement of stock and direction of delivery. Owing to building peculiarities, we may not always achieve this pattern of arrangement, but we can always adopt portions of it. For the sake of clarity, no auxiliary equipment is shown.

MACHINE	MINIMUM CLEARANCE			
	At Front	At Rear	Between Machines	At Sides
Material Maker	3'-6"	6"*	1'-6"	2'-6"
Composition Caster	3'-6"	2'-6"	1'-6"	2'-6"
Do. with L.&R. Attachment	3'-6"	2'-6"	1'-6"	2'-6"
Giant Caster	3'-6"	6"*	1'-6"	2'-6"
Junior Material Maker	3'-6"	6"*	1'-6"	2'-6"
90-Em Keyboard	2'-6"	2'-6"	1'-6"	2'-0"
65-Em Keyboard	2'-6"	2'-6"	1'-6"	2'-0"

* Excludes swing of pump.

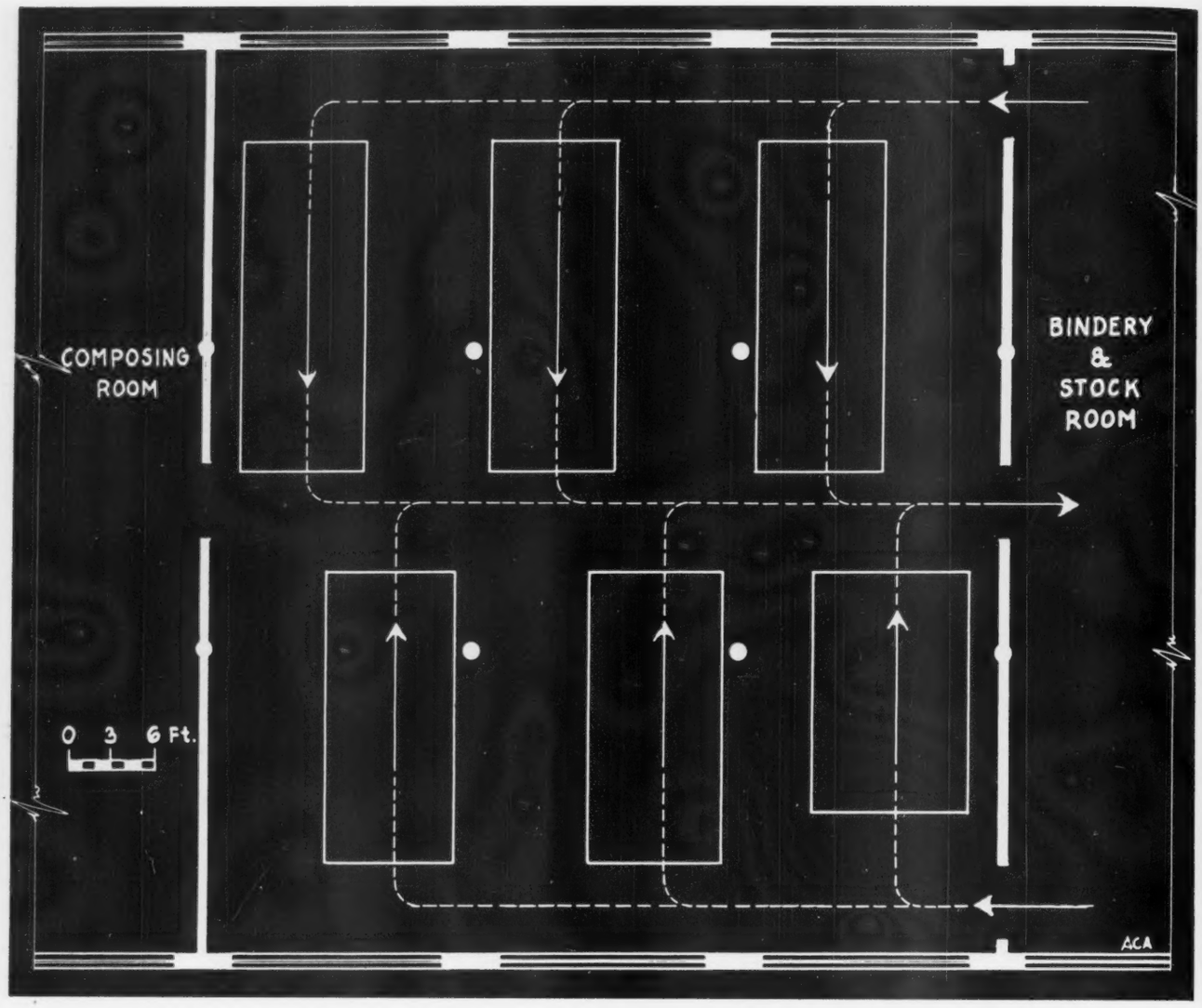


Fig. 6—Cylinder Pressroom

Bindery

The layout of the bindery depends a great deal on the lengths of runs. Long runs of stock will accumulate at certain operations. Folders for example, will dispose of a job more quickly than will a battery of two stitchers. In most plants the installation of additional stitchers to balance the folder output would not be feasible on the non-repetitive job. As our problem concerns the general job plant, we are constantly handling the "run of the hook" job which presents ever changing demands. Today, the perforators and paper cutters are overburdened; next week, the stitchers and hand tables are the center of activity.

In view of such conditions, we must allow too much rather than too little space for each of the operations. Experience with varied lengths of runs is the only criterion by which we can judge the floor space requirements. We must not, however, lose sight of the 1,2,3,4 sequence of operations which determines the location of equipment.

Layout alone does not complete the picture for profitable production, however, but rather, it is a good arrangement plus proper equipment.

The full value of modern equipment is partially destroyed when that equipment is illogically placed with utter disregard for sequence of operations.

Modern equipment is smaller, more compact and has more labor and time-saving features than the obsolete. We have all witnessed the big "rock crusher" grinding out many a small job that should have been put on one of the high-speed small automatic presses. We have seen the composing room consisting of numerous case stands without adequate materials storage and occupying twice as much floor space as modern type cabinets, where the compositors spend excessive time in walking instead of producing. When we make our layout we become more conscious than ordinarily of our weak equipment spots. This is the time to cure these ailments.

As the operations in the various departments in the average job shop are so dissimiliar, the demands for equipment and working space vary to a great degree. The pressroom and bindery have, as a rule, larger but fewer pieces of equipment than the composing room.

The latter has numerous closely allied operations involving different types of equipment that exact an extremely compact arrangement for proper output. We shall treat each of these departments individually.

Composing Room

Broadly, the operations necessary to produce type forms are composition, makeup and lockup. Makeup and lockup are entirely manual. Only composition may be accomplished by either machine (slug casting, Monotype, Ludlow, etc.) or hand method. Therefore, composing room activity is largely a series of hand processes.

Hand composition, lockup and makeup are all hand assemblies of individual types, type slugs, leads, slugs, spaces, quads, furniture, cuts, etc., in some stage of production of a type form. These component materials must be accessible to the operators' working stations in order to reduce time consumed in walking and searching to a minimum, and to raise production to a maximum with least fatigue and danger of pi and accidents.

Most equipment in the composing room is in itself non-productive, but modern design makes it possible for those who work with it to produce economically. The compositor craftsman can convert adequate composing room equipment, which is apparently inert, into a unit machine as productive as any

high speed automatic printing press where output can be measured by a tachometer.

Type Cabinets, Stones and Auxiliary Equipment

Let us assume we have our templates out in accordance with the equipment shown on Fig. 1. Type cabinets and imposing stones are the core of the composing room. They are the working stations and should carry all most frequently used materials within easy reach.

Type cabinets are usually placed perpendicularly to an outside wall if natural light is available. This style of arrangement has proven very satisfactory. Working space and traffic aisles are customarily given as follows:

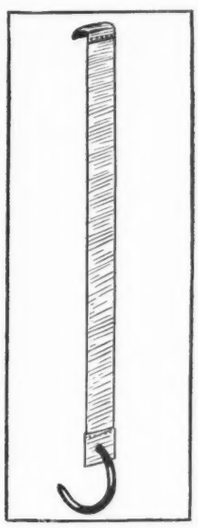
Working space, case or working side . . 3'-6" to 4'-0"
End adjacent to wall .6" to 1'-6"
End adjacent to traffic aisle . . . . . 4'-0" to 5'-0"

It is desirable to allow 4'-0" to 4'-6" on two or perhaps three sides of a stone. If the forms are large and a Mashek form truck is used, the space on one side of the stone should accommodate the truck in a horizontal position plus a man. The stones generally should be located between the type cabinets and presses, and be equipped with galley storage and furniture and reglet.

Press Roller Lifting Sling

A RATHER clever tool has been devised and is used in the pressroom of the Pittsburgh *Post-Gazette*. This device takes the form of a sling or strap which is employed to raise and lower the inside form rollers in the arch-type printing press units. The sling eliminates the necessity for pressmen crawling in under cramped space in order to raise or lower heavy rollers by hand.

The accompanying illustration really is self-explanatory. The strap is made from 24 ga. sheet metal, 3 in. wide, and 41 in. long. A steel plate is riveted at each end of the strap. At one end is fastened a steel-rod hook of sufficient opening to accommodate the bearing-end of the roller stock.



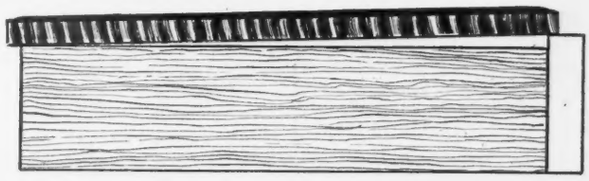
Diagrammatical illustration of sling used to remove and replace rollers in pressroom of Pittsburgh *Post-Gazette*.

In use, two of the slings are each caught by the curved plate in the plate clip runway and the hook ends engage the roller stock. The press is thrown out of gear and is barred by hand until the roller reaches the roller sockets.

Condensed Motor Catalog

General Electric has issued a new Condensed Motor Catalog, No. GEA-4281A. Size 8 in. by 10½ in., 16 pages, illustrated. Only the most popular types and sizes of standard motors have been included in the descriptions. In easy-to-find form are given application data, operating characteristics, prices, dimensions, ratings, and frame sizes. Data on control equipment for standard motors are given, as well as helpful hints on how to determine which motor meets your requirements.

Fig. 3



A Simple Problem— A Simple Solution

TWO fine arguments for conserving unnecessary loss of production time in the pressroom are graphically presented in the accompanying diagrams. One argument, strange as it may seem, might consist of the necessity for premakeready before wood-mounted cuts are locked in the form. Another argument might be that shrunken wood base demonstrates the necessity for other than wood-mounting material.

Perhaps pressmen are more conscious of the loss of time and non-productive work caused by shrunken base than any other craftsmen in the plant. The pressman justifiably feels that the work entailed in correcting the lockup of such cuts is futile—its so entirely unnecessary and of course is non-productive. It is difficult for him to understand how such

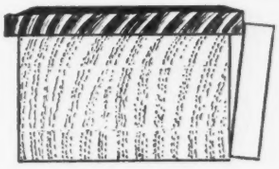


Fig. 2

cuts can pass makeup without detection in the composing room.

For the purposes of this article, we are mentioning wood-mounted electros only which have been brought pit of storage, having been used previously. The problem of handling cuts which have been undercut previously on another job is not considered in this discussion.

In Fig. 1 are shown two electrotypes (0.152 in. thick) mounted on wood base. The wood bases have shrunk over a period of time. The strip-cast spacing material between the electros in 0.853 in. high. As a result, the spacing material worked up in the form on the press. Of course, the pressman in this case interrupted the press run to put 1 pt. sinkers between the spacing material and the shrunken wood base to eliminate the trouble.

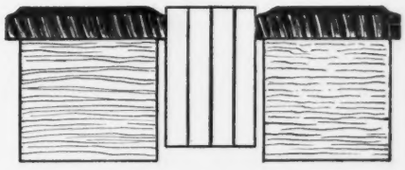


Fig. 1

In Fig. 2 is shown a similar wood base which has shrunk so that the plate extends over the edges of the block. It doesn't require much imagination to note that type matter is thrown off its feet by being tilted. In many cases, an overlapping cut might have enough shoulder along its edges to permit removal of the extending portion on a saw-trimmer.

In the case of Fig. 3, the extending edge of the plate lodged on top of the spacing material. As a result, the edge of the cut was approx. 0.083 in. above type high. The remedy is obvious, but it should be applied before the forms leave the makeup department in the composing room.

UTA Paves Way For United Printing Industry

By unanimous vote, the United Typothetae of America has adopted the by-laws revision worked out by a task committee representing both the Joint Committee on Government Relations of the Commercial Printing Industry and the UTA, thus paving the way for a long-sought overall national association for the printing industry.

At a special meeting held at the William Penn Hotel in Pittsburgh, April 25-26, UTA's membership and Board of Directors, in addition adopted the equitable dues structure for affiliated local, state and regional Graphic Arts Associations.

A resolution was adopted authorizing a special meeting of the association's membership at the earliest date consistent with New York State corporation law (UTA is a New York corporation) for the purpose of voting on the change of name from United Typothetae of America to Printing Industry of America, Inc.

EDITOR'S NOTE

OUR readers will remember the illustrated account of the career of Joe Bloe—Foreman in the plant of the Daub Publishing Co., Tincup, Colorado. In the series which appeared in Printing Equipment Engineer, a few of the many headaches encountered by every Joe Bloe were protrayed in elemental down-to-earth fashion.

Over the years the size of the plant increased, and the scope and duties of his job kept pace with company growth. Unfortunately, as happens too often, his income, authority and executive prerogatives were not balanced with his responsibilities.

Gradually, over a period of time, matters reached a very confused state. Good natured Joe was blamed for every mishap caused by contradictory orders, changes of mind, or downright cussedness on the part of his fellows who were scrambling for position in the organization.

Joe sets his house in order after obtaining Daub's confidence. He makes certain that every loophole is covered to checkmate any possible forgetfulness on Daub's part. One part of this program calls for definite cooperation on the part of his assistants—so he calls them together for the first of a series of mechanical executive and production conferences.

Joe Bloe mechanical superintendent

of the Daub Publishing Co., organizes production board at first dinner meeting — Gets off to a good start

By WILLIAM WYATT WARFEL

"GIMME a pencil," smiled Joe to the waiter after looking over the dinner check, "an' I'll sign it an' add your percentage. Tell Ernie to mail the bill to the *Bladder*. After I OK it, they will send him a check." As the waiter respectfully bowed while reaching for the slip of paper, Ernie bounced into the room. "What are you trying to pull off here?" he barked as he looked over the group. "This ain't the Gypmore Hotel. This is my dump. Them groceries is on the house." Joe chuckled as he turned around. "Ernie," he cracked with a big grin, "if I'da thought you would dish it up for free, we woulda all had them twenty-eight ounce steaks. But, all kiddin' aside," added Joe quietly, "that kinda stuff don't go on this deal. This is the first of many business and production conferences of foremen for the benefit of the *Bladder*. We're gonna meet here once a month. So, I won't let you start something that would be hard to stop. The bill stands."

"Now, boys," said Joe seriously as he turned back to his group," "this is what the army calls neutral ground. There ain't no stenographers or microphones. Every so often we are going to meet here and spill our troubles. If anybody don't wake up quick that this must stay on the level, he gets his teeth kicked in. No talkin' to anyone after we leave this room. Here is where we get it off our chest. Then, we do something about it. Get it straight—then hold the line. Everything that crops up here is between us guys. Us only. If anyone carries anything outa here that shouldn't be carried out he gets a Louisville slugger wrapped around his neck. Ketch? If anybody's wife gets a couple wrong twists of what is spilled at these meetings, well, that guy will get a package of thirty all-day suckers. He can work on them things while on vacation—on his own time."

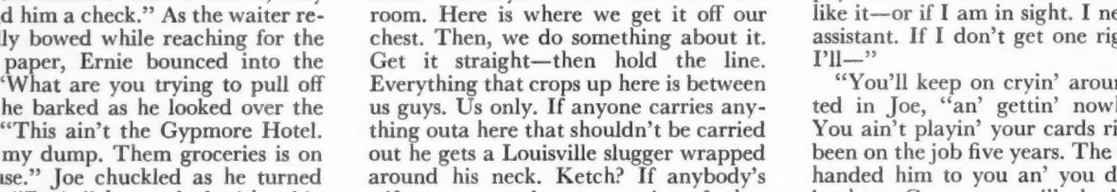
Joe looked around the table. The foremen were all ears and serious. None were quite certain about Joe's statements. To ease the tension, he read off the original invitation. "That means," grinned Joe, "just what it says. No more. No less. No jokers hidden in the deck. No cards up the sleeve. Get it straight—this is the way it stacks up: Old Man Daub woke up to the fact that we slaves have a husky job to do. We don't get a damn cent more take-home if we shovel day and night. So, lets start hashing it out. Between us, we can make it easier for each other if we work in cahoots—always on the up and up. The easier you make it for the other guy, the easier it is for you. A smart wiseguy once called that the law of compensation. We can make it work, too. That's for sure—if we all get in an' pitch."

Joe waited for a response. The men toyed with pencils or scratched their heads while shifting uncomfortably in their chairs. One of the men hesitatingly began to express his thanks for the dinner donated by the company. Joe cut him off sharply. In between the firmest words he could muster, he made it plain that the company was not being one bit charitable. "This," wound up Joe as he pounded the table, "is cold, hard business. Get that through your skulls. Try to figure it out as if you owned the dump. F'rinstance, take yesterday. You," griped Joe with well simulated irritation while pointing at Dell Eavery, "spent half an hour rowing with Deez Patschor. Would the rest of you lugs," asked Joe as he looked around the table, "stand for that stuff if the joint was yours? You know damn well you wouldn't. You'd throw 'em both out on their ears. I wonder," added Joe severely, as he turned back to Dell Eavery, "if you even know for sure what you were yowling about."

"That so- and - so," shrieked Dell Eavery, stung to the quick, as he half rose from his chair, "is no good. He don't get nothing done. The only time the men pay attention to him is when they feel like it—or if I am in sight. I need a new assistant. If I don't get one right away, I'll—"

"You'll keep on cryin' around," butted in Joe, "an' gettin' nowhere fast. You ain't playin' your cards right. He's been on the job five years. The Old Man handed him to you an' you didn't like it then. Guess you still don't like it. Did'ja ever," asked Joe seriously while looking Dell Eavery in the eye, "explain to him and the men just exactly how much authority he has? Where it starts and stops. Looks to be like you been using him for an alibi—instead of a helper. Come on," laughed Joe to relieve Dell Eavery's tension, "shuck it on the table. I ain't pickin' on you. We are going to talk principles—not personalities. We will all take it on the nose before the meetin's over. Six heads are better than one. I'll show you how to take a crack at your bellyache."

"Here," motioned Joe, "hand me that



pad of paper and a pencil. When you got a problem, its a good idea to look at it.

"S'pose we set up your lines of authority. You are the boss of your department. OK. So we draw a desk with your name on it. Your assistant has a desk right under yours—like this. That shows you are his boss. Now, you got three straw bosses, so you put them in a row under your assistant's desk. Under the straw bosses desks go their helpers. Here," said Joe as he handed the sheet to Dell Eavery, "take a smell at it and then pass it around. If it doesn't make sense to you, holler loud enough so anybody can hear you way across town.

"Did'ja ever think" continued Joe grinning, "what it would be like if I came down and bawled you out in front of your men? Suppose I butted in and told the men what to do while you were there. You know doggone well you'd feel as useless as a wart on a pickle. So, you gotta always put yourself in the other fellow's shoes. An' " added Joe seriously, "this goes for all of you lugs. Pass that sheet around. You all been doin' the same thing. So, each one of you guys make a chart, explain it to your key men —then live up to it. Don't slip."

"What," griped Ty P. Settor, "good will a chart be for me? The Old Man told me you were my boss. I swallowed that for five minutes. The next thing I know Whis L. Blatt demanded a rush job of headlines ahead of Bullam Goode's rush advertising copy. Both threatened to have me fired if I didn't listen to them. I told them to jump in the river. Ten minutes later I was on the carpet. I got so cockeyed sore, I'da quit if I could have gotten one word in edgewise. I—"

"That's a tough nut to crack," butted in Joe before Ty could work himself up to a fever heat, "an' we are goin' to do something about it. I mean just that. Now, looky," added Joe with a smile, "you got your job because you know how to be a diplomat when you feel like it. From now on, you'll always feel like it 'cause you know I'm right in back of you all the time. Every minute. This goes for all of you, too," said Joe as he looked around at his gang, "an' I want it just that way. Not once in a while. All the time.

"Each one of you has connections with the other departments, outside of ours. They tell you what they want—and when they want it. You tell 'em when they can get it. If that don't suit 'em, you send 'em to me. It'll take me a while to stop 'em from going direct to Mr. Daub. If they get to him, and he slips up and calls you on it, act cagey. Just tell him you've taken it up with me to save his time. That'll make him feel like he is out on a limb. Don't worry. He'll wake up quick and pass the buck. All we gotta do from now on is act smart. By keeping his nose outa this end of the business, we'll be doin' him a favor. Pretty soon he can play golf every day—and sleep on Sundays."

"Sounds swell," commented Matt Castor, "and I hope it works."

"It will work," answered Joe positively as he nodded his head, "because you fellows are goin' to help me make it work. I'm licked if you hold out on me."

"Count me in on it," stated Matt Castor, "and while we are about it, I'd like to settle Polly Tischon's hash. He sneaked off the job twice this week. When I was going home last night, Mr. Daub stopped me. He told me he was going to give the slob another raise. He said Polly Tischon's good work made the sheet look so nice lately. Where do I get off at when the Big Shot spills that kind of guff? He doesn't know what is going on in my department. Where does he pipe it from?"

"Did'ja ever think," cracked Joe without a smile, "that Polly Tischon might be fishin' around on the outside an' pullin' strings to get his hooks on your job."

Matt's hands dropped from the table. He sat back in his chair with a jerk. His jaw dropped. The look of surprise on his face turned to anger. Slamming his big fist on the table, he yelped, "That's it. Now I get the play. The stinker! All the time he is handing me applesauce about what a swell guy I am, he is needling behind my back. Everytime something goes haywire, he is the only one who can find the trouble. Why, dammitt," shrieked Matt Castor as he waved a clenched fist in the air, "that's what they call sabotage, ain't it? I'll crown him . . ."

"An' get yourself canned," sneered Joe. "Shut up. I wonder if I made a mistake setting you up on your job. You just admitted you don't know what is goin' on in your department. Is this sharpshooter smarter than you are?"

"A conniver," moaned Matt Castor, "if there ever was one. Time after time the guy lies to me and I swallow it. I

guess I am just plain dumb. Joe" said Matt Castor in mock sorrow as he got up out of his chair and turned around, "please kick me—real hard. The best padded place you can find. I got it coming."

"Nuts," laughed Joe. "Sit down, you're rockin' the boat. You been so busy gettin' out the work you ain't been lookin' at the people you work with. You got yourself in that one. Let's see if you can squirm out smooth. Tomorrow you tell Polly Tischon that his raise started at the wrong end of the ladder. Tell him you gotta approve it first. Then it comes to me. If I pass it, then it goes to the Old Man. Let's see what happens. If he tries to see Mr. Daub, he'll find me in there ahead of him. Now," continued Joe as he looked at the men, "this one goes for all of you, too. You always had responsibility. Now you know you got some authority, too. But, you gotta be careful with that stuff—its like dynamite. No shootin' off. No threatenin' to fire anyone. Take it easy. If you get your tail caught in a crack, see me pronto quicklike. If anyone gets radical and you get in too deep, bring him to me. Don't go off the deep end. Prove your authority by doin' the job so you never need to use it."

"There's one thing about this meetin' I don't like," complained Joe, "an' that's me doin' the most of the talkin'. I was hopin' I'd be a kind of referee. Mebbe that'll come later. Another thing I don't like is that not one of you eggs has taken a pot-shot at me. Hell, I ain't perfect. If you think I am, ask my Mary. She'll tell you different quick as a wink. So, from now on, its up to you guys to keep a tight rein on me, too. I got a few things to look after. I get steamed up once in a while. When I get in heat, I get off base—just like you. If we are gonna make this new deal work right, we gotta hold both ends of the line. If it looks like I ain't weighing things out even, you eggs call the turn. OK?"

"Well," snickered Inky Schmear, "you just asked for it. Now you are going to get it—right on the kisser. The way you are ladling out this stuff, it looks like you are getting set to go golfing every day, too. If you get away with it, how long will it take for us to get on the toboggan, too?"

"That's a hot one," chortled Joe, "an' right there you rolled up a good package. I sold Mr. Daub a bill of goods—he promised to quit sticking his nose in our departments. By this time you boys oughta know I'm gonna do the same thing with you. From now on, you fellows are pretty much on your own. I'll make a weekly inspection. I got me a magnifying glass to look over your reports. I got confidence in you boys. I know you won't let me down. I'm gonna prove I got confidence—an' I know you are gonna pay me back double. You guys slice a little of the same down the line. Look, Inky, you got twenty pressmen. Four of 'em are key men. You should do all your business with those four men. Listen to their problems. Give 'em what they need. Sometimes its a pat on the back. Sometimes a kick in the slats. Other times all you need is a sympathetic look on your snoot an' you don't need to say a word. Make 'em feel that you know they got a lot on the ball. If they got good stuff in 'em, that'll bring it out. Use the old noodle. Give 'em a break and they'll go to town for you."

"Hm," said Bill Dingbosse thoughtfully, "sometimes that works and sometimes it don't. Giving people rope like that isn't always so good. I got a swell case right now. The squirt is too big for his breeches. I left him on his own too much. Most of the time now he tells me—his boss. If that keeps up, pretty soon I'll have to tie him in a knot."

"Does he ever have the right answers?" queried Joe.

"That is what gets my nanny," griped Bill Dingbosse. "The sucker always keeps two jumps ahead of me. Just the other day we saw the lights flicker on the third floor. I thought it was a loose connection. While I was down there hunting for it, he fixed the trouble in the basement. That kind of stuff is getting monotonous."

"Sounds like the kid has something," smiled Joe. "I can see that you are kinda proud of him. If you wasn't, you wouldn't be gripin'. You tell him you gave him a pat on the back to me. Send me up his record card. Later on I'll have a talk with him. What I think is eatin' you is because you haven't got a good spot to promote him to. I'll find that hole for him if he looks real good to me. That'll be a boost for you for helpin' him find the right place where he belongs. Makes a fellow feel good all over when he can give somebody worth while a good break.

"One more thing," said Joe as he shoved his chair back, "then we'll knock off and call it a day. Each of you boys has a job to do. You are all pulling your weight. That shows you take pride in doin' things up brown. If you haven't got one, scout around in your department for a number two man. Start diggin'. When you find him make sure of it, then let me look him over. If I think he is OK, I'll read him the riot act—and add ten per cent to his pay. Then, if you get sick or wanta rebury your grandmother, you can get off without leaving any headaches layin' around."

Joe stood up to signal the end of the meeting. Suddenly he thought of something. "Wait a minute," he said chuckling. "Here I been preachin' about your problems—and I almost forgot one of my own. Looky. I want you guys to do a detective job for me. This calls for some real snoopin'. Somewhere in this outfit is a young squirt with a big grin on his puss—and a load of iron filin's in his gizzard. That's a large order. Think about it. No rush. When anyone looks good to you, keep it mum and just tell me about him. I'll look him over on the q.t. Now, no talkin' about this. When I move the kid into my office, I don't want him to know why. Also, fellows, after we get organized, we're goin' to invite Mr. Daub to come to our meetings occasionally." Good night and remember—mum's the password."

As Joe crossed the lawn after parking his car in the new garage, he let out a war-whoop as he hopped, skipped and jumped. Mom was looking out of the window. She waved while laughing at his kid antics. Joe snickered as he waved back. Sprawled on the grass near one of Mom's flower beds he mumbled, "What a difference. I gotta ramble around to see the Parson tomorrow night. He'll be tickled to know how good things are going. He sure laid it on the line when he said I hadda respect myself before anyone else would. Even Mom don't raise hell with me any more.

"I had the boys right in the palm of my hand tonight. I didn't have to tell 'em I was the big dealer. I just showed 'em I had all the angles. I threw the book at 'em an' they liked it. That was one time I wasn't like the plumber who hasta always go home for his tools.

"Tomorrow I gotta write me a long letter to good old Oscar Grafchart. He is the guy who woke me up—and I'll never let him forget it. Lottsa people think he is a horses's potato. I did too before I woke up. Just goes to show that if you treat people right most of 'em will come back at you the same way."

Joe looked up at the brilliant full moon. Soon he was snickering aloud. Waving to the moon who seemed to be winking at him, Joe cracked as he stood up, "Even the moon is on my side. If I keep my eye on the ball, it'll always be that way. Hot dog! The world is my oyster."

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Origin of type heights and type body sizes—

Interesting discussion of beginning of type heights and systems used for determining point sizes

By HERMAN R. FREUND*

**Chief Engineer, Intertype Corporation, Brooklyn, New York.*

II—Origins of Body Sizes

IN discussing body sizes and systems, we must begin with our exalted master Gutenberg, who, in designing the first single-letter type was, no doubt, guided by the works of the old book scribes who were following their own artistic feelings. Thus the various body sizes created at that time were determined optically and not according to system or mechanical measurements.

To distinguish the various body sizes, one gave them names. Thus we have "text" which is a body measurement for the type used in setting the first Bible text. The size used in setting Cicero's orations were called "Cicero" (a term which is still used at the present time as a standard unit of measurement for the European typographical system). The type sizes used for legal documents were termed Korpus from the Latin "Corpus Juris" which means "body of law". "Tertia" was used as the third or intermediate size and "Petit" was considered until the 18th century to be the smallest type size. When later the nonpareil type was created, it was considered the highest achievement in the art.

So each country adopted its own sizes and names of type bodies either by copying the sizes and names from their fellow typefounders of by using their own good judgment in the matter. Thus we have such names as Parisienne and Minion in France, Brevier and Garamond in Holland and the Primer or Pica in England and a great many others. It would serve no good purpose to enumerate all these names. But it should be remembered that the printer had no means of distinguishing the various sizes of type except by eyesight. On account of the lack of proper measuring instruments, the typefounders used sample type in setting their molds. Consequently, an absolute uniformity of body sizes could not be obtained.

The English were far ahead in technical achievements in the early days and they are given the credit for being the first to figure type bodies in terms of the English foot. This is referred to in Joseph Moxons' *Mechanical Exercises of the Doctrine of Handyworks* applied to the art of printing, London, 1683.

The English printers were using ten different body measurements, all of which were based upon the English foot. Thus, 150 nonpareil equalled one foot, and 75 picas equalled one foot. However, after changing these units a number of times, they were further corrected by Caslon in 1842 so that 144 nonpareil equalled one foot, as did 72 picas, which units are still in use today.

While this procedure brought some order into body measurements, it did not give us a definite typographical system in which all bodies were correlated.

Fournier System

The first clear description of the typographical point is given in the *Manual Typographique* of Fournier, Jr., in Paris, 1764. Fournier was born September 15, 1712 and died on October 8, 1768. He was a punch-cutter in Paris and head of the firm of Pierre Simon Fournier. Previous to the adoption of his typographical point, Mr. Fournier took for his measurement "a line" which consisted of 6 points. Consequently, a 10 point type consisted of a line and 4 points—a plan somewhat cumbersome and inconvenient. In the manual of 1764, he did away with "the line" and made the point the unit of measurement,—a much simpler plan and one which has been in use ever since.

He describes the typographical point as nothing but the division of the type body into equal and definite units called points. By this means, anyone can know exactly the degree of difference and the relation of type bodies to one another. So a nonpareil, which is 6 points, added to another nonpareil, would make a cicero which is 12 points, etc.

To combine the bodies, it is sufficient to know the number of typographical points in each. To do this, these points or given units must be invariable, so that they will serve as standards in printing offices, like the inch and "the line" in geometry.

To this end, Fournier fixed the size of the typographical point by making a scale which he called a prototype. This scale was 2 in. long and each inch was divided into 12 lines and each line was divided into six typographical points, making 144 points in all.

The available literature is not very clear whether the inch referred to is the English or the French inch. Remembering that the French foot contains 12.7892 English inches we must presume that Fournier's system was based on the English foot, since the present Fournier point measures 0.01373 in. and the Fournier cicero 0.16473 in., which very nearly approaches our American typefounders' point of 0.01383 in. and the pica em of 0.168 in.

The Fournier system harmonized closely with the body sizes established for several hundred years and it was suitable for world-wide adoption. But, on account of the lack of proper measuring instruments which were necessary to calculate his point unit according to some standard measure, Fournier was forced to make his own scales as best he could. His first scales were made of paper and to his great dismay the paper shrunk or stretched with varying atmospheric conditions, making uniform body sizes impossible. Later he used brass and steel in making his scales or rules. Even these were not absolutely dependable as they did not correspond to a definite standard of measure.

Didot System

Francois Ambroise Didot, the son of a celebrated French family of typographers, born June 7, 1730, realized the weakness of the Fournier basis of measurement and set out to make the typographical point conform to the standard measurement of the French foot. However, Didot preserved Fournier's subdivisions of 72 points to the inch, but, on account of the difference between the French and the English foot measure, Didot's divisions were somewhat longer than Fournier's. This difference was not noticeable in the smaller sizes of type, but it proved disastrous in the larger sizes. For instance, a cicero or 12 points in the Didot system is equal to about 13 points of Fournier's.

Unquestionably, the method of Didot was in the right direction, but a great deal of confusion could have been avoided if Didot had been satisfied to bring the Fournier point into proper relation with the French foot. Fournier's point unit had also been introduced into the United States, England as well as France and other European countries. Notwithstanding the advantages of the Fournier unit which closely conformed to established practice in type design, the Didot unit prevails today in all European countries outside of England while the Fournier unit is used only to some extent in Belgium and rarely in France.

It should be remembered that unlike the American em unit for line-casting machines, the Didot as well as the Fournier units are square measurements, that is, the same unit is used for setwise as well as body measurements. The Didot point equals 0.01483 in. and the Didot cicero 0.178 in.

In designating the various point units, it is essential to prefix the name of the system intended as follows:

One Didot Cicero equals 0.178 in.
One Fournier Cicero equals 0.16478 in.
One Didot Point equals 0.01483⅛ in.
One Fournier Point equals 0.01373 in.

The term "Petit" used in connection with the point system is erroneous. According to reliable sources in the history

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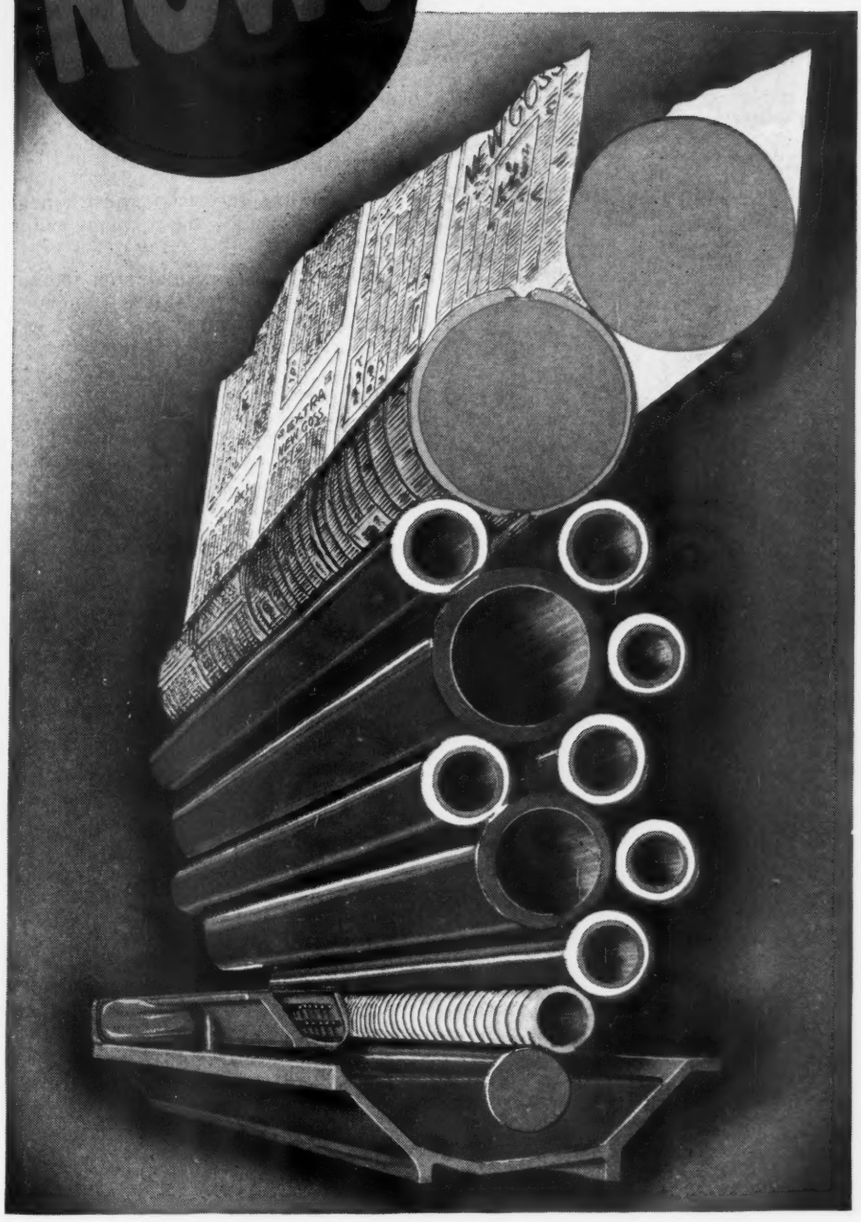


Up to the present, ink has been fed intermittently even in presses into which paper was fed continuously.

THE GOSS CONTINUOUS INK FEED SYSTEM, using an entirely new principle of ink feed now provides continuous, uniform in-feed of ink for continuous printing, thus eliminating variations in color.

This new system, while revolutionary, is simple, and truly continuous. Ink is taken from the fountain roller by a helical ribbed roller which transfers it in a continuous overlapping pattern to the transfer roller thereby maintaining proper feed under all conditions of operation.

THE HEADLINER...Press of the Future

In A World of Color!

LET'S FINISH THE JOB BUY MORE WAR BONDS

THE GOSS PRINTING PRESS CO.
1535 S. PAULINA STREET • CHICAGO 8, ILLINOIS
NEW YORK • SAN FRANCISCO • LONDON, ENGLAND

GOSS

of typography, there has never been a Petit system used anywhere in the world.

Metric System

In 1800, the meter was introduced. At that time a movement was afoot to create a typographical system based on this new unit of measure. When in 1811, Napoleon ordered that all type of the National Printing Office be removed, the matter was turned over to the firm of Didot to consider the casting of the new type according to the metric system. This project was discontinued in 1814 when it was estimated that it would cost 1,080,000 francs to cut the new punches and make the new matrices of the new dimensions. This, apparently, has thrown the metric system into oblivion and no attempts have been made to re-introduce it since.

There may have been attempts made to establish other systems to unravel the confusion existing in the typographical field, but these have not survived and their historical value is not worth mentioning.

American System

This brings us to the systems with which we are most familiar, namely, the American Type Founders' system and the system used on the American line-casting machines. When the units for body and setwise measurements were determined for the use of line-casting machines, an attempt apparently was made to allow for shrinkage of type metal and the American Type Founders' system of 0.01383 in. was modified to 0.014 in. for body measurements and 0.01388 in. for setwise measurements. Thus, the point unit of the American line-casting machine is not a true square measurement. This has caused a great deal of annoyance in print shops using both line-casting machines as well as foundry type.

About 400 persons, representing employees and friends of the Jensen Printing Co., Minneapolis, assembled to witness the bestowal of the Certificate of Merit by U. S. Public Printer A. E. Giegengack on Monday, May 7 in the company's plant.

Jensen Printing Co. Receives GPO's Certificate of Merit

ONE of the first companies to receive the Government Printing Office's Certificate of Merit is the Jensen Printing Co. of Minneapolis. The award is being made to commercial printing firms in recognition of meritorious service to the Government during the war period in producing essential printing.

The Certificate of Merit was presented to the Jensen Printing Co. on Monday, May 7. The presentation occurred in the plant of the company. About 400 persons, including employees and friends of the company witnessed the ceremony.

The certificate, presented by A. E. Giegengack, U. S. public printer, was in recognition of the company's achievement in fulfilling on time and with high quality performance a contract for instructional and supply pamphlets for Engineers, Medical and Signal corps of the armed forces involving a total of 26,000,000 pieces of printed matter which consumed 1,000,000 pounds of paper. In order to do this 61,000,000 ems of type were set up and 13,000 pages stereotyped. Work on this contract was begun in June, 1944.

The award was one of 14 which have been made in the United States, it is reported, despite the fact that 1900 printing firms in the nation were working on government war printing contracts.

Vice President Clarence A. Groettum of the Jensen Company, in his introductory remarks, recalled that Jensen employes had worked long hours, given up holidays and their Sunday rest in order to turn out the work as rapidly as it was needed for the armed forces at the front. He introduced Paul J. Ocken, vice president and general manager of Graphic Arts Industry, Inc., who paid tribute to the achievement of the company and its employes.

Mr. Giegengack, presenting the certificate of merit to Charles H. Jensen, president of Jensen Printing Co., paid high tribute to the cooperation which the company has shown in making every effort to keep the much needed pamphlets flowing, pointing out that they played an important part in the front-line progress of American armies everywhere. The nature of the pamphlets was such, he said, that without them troops would have been forced to halt in the field.

Accepting the award in behalf of the company and its employes, Mr. Jensen expressed his appreciation for the loyalty and cooperation of his employes and those subcontractors which enabled the Jensen Company to fulfill its obligations. The certificate is a reward for past performances, he said, but pointed out that, with other government printing responsibilities still before the company there remained the challenge of being again and again tested before final victory is won.

Roy L. Brewer, president of Duragraph, Inc., and vice president of Jensen Printing Co., who was the expediter for the contract, received the award in behalf of the composition companies of Minneapolis and St. Paul who were subcontractors. He pointed out that such an accomplishment would have been impossible without the merging of the productive capacities of the typesetting plants.

President Charles H. Jensen of Jensen Printing Co., Minneapolis, receives GPO's Certificate of Merit from Hon. A. E. Giegengack, United States Public Printer.

33 years of continuous research maintains Imperial SUPERIORITY

It might well be said that Imperial Type Metal was born of a test tube . . . for in the very beginning and in all the ensuing years, Imperial Metal has been the product of research. It is significant that many of the major improvements in type metal and type metal servicing, such as plus metals and the Plus Plan metal control, have come out of the Imperial laboratory.

The results of this continuous research program are shown in the fact that 56% of all the daily newspapers in the United States depend on Imperial Type Metals and the Imperial Plus Plan for the control of their metals. If your plant is not Imperialized . . . if you want scientific, accurate type metal service, then by all means let us tell you in detail about Imperial Type Metals and the Plus Plan.

IMPERIAL TYPE METAL COMPANY

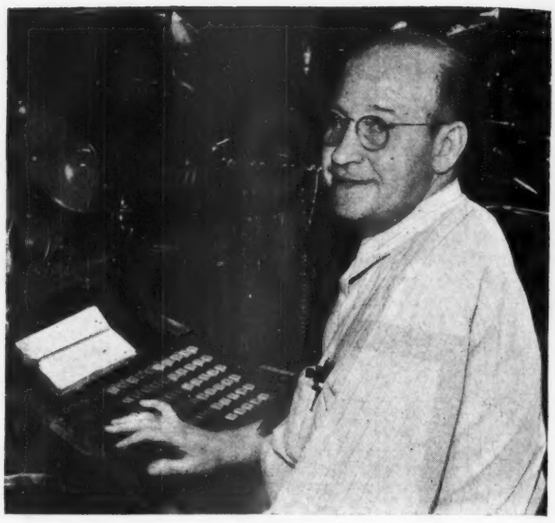
Serving the Graphic Arts Industry only

PHILADELPHIA 34 NEW YORK 7 CHICAGO 50

Former Marine Operates Keyboard

THERE is an organized movement in operation which is sponsored both by Government and industry to assist handicapped veterans of World War II find places for themselves in professional, business or industrial capacities after their return to civilian life. At present, it seems co-operation between the sponsoring parties is excellent. This is as it should be.

Just to demonstrate that the idea can be made to work successfully in many instances in the printing industry, we refer you to John F. (Jack) Keller, Jr. Keller lost an arm in the Second Battle of the Marne, France, in 1918. Jack was a member of the 97th Co., Sixth Marine Corps in that theatre. For about 25 years now, he has been operating the keyboard of a line-composing machine daily at the Cleveland *Plain Dealer*. Apparently, his production is eminently satisfactory.



John F. (Jack) Keller, Jr., Marine in World War I, operates Intertype keyboard regularly in Cleveland *Plain Dealer* composing room with one set of fingers.

Operating a line-casting machine keyboard isn't his only accomplishment. He has driven a car for 30 years and changes his own tires. His hobby (in common with many other printers) is bowling. He bowls a better than average game. He has been president of the Cleveland Allied Printing Trades Bowling League for 20 years. This League is made up of 20 teams composed of members of the Graphic Arts.

He is married and has three sons. Two of them are in the service in the Philippines in the present war.

In the picture, seated from left to right are: Joseph L. Auer, Vice President and Genera Works Manager, R. Hoe & Co., Inc., New York; Harold G. Cutright, President, R. Hoe & Co., Inc., New York; Harry M. Tillinghast, Chairman of the Board, R. Hoe & Co., Inc., New York; Chas. H. Crabtree, Chairman of Crabtree & Sons, Ltd., Leeds, England; Arthur Dressel, Vice President and General Sales Manager, R. Hoe & Co., Inc., New York; Thomas C. Turner, Director, R. Hoe & Co., Inc., London, England; Wm. F. Huck, Chief Engineer, R. Hoe & Co., Inc., New York; Chas. A. Harless, Consulting Engineer, R. Hoe & Co., Inc., New York.

Working Agreement Effective Among Three Manufacturers

A CLOSE working agreement between R. Hoe & Co., Inc., printing machinery manufacturers, and R. W. Crabtree & Sons, Ltd., of Leeds, England, and R. Hoe & Co., Ltd., of London has been made as a result of discussions held in New York among officials of these companies. The agreement was negotiated by Charles H. Crabtree, chairman of Crabtree & Sons and R. Hoe & Co., Ltd., Thomas C. Turner, director of the latter concern, and H. M. Tillinghast, chairman of the board, Harold G. Cutright, president, and Arthur Dressel, vice president and general sales manager of R. Hoe & Co., Inc.

As a result of this agreement, the three companies will exchange drawings and designs, as well as full information on all machinery which they produce for the Graphic Arts industry. In this way the individual features of design and construction will be embodied in the printing presses and allied equipment to be produced by these three manufacturers.

In addition, R. Hoe & Co., Inc., has been granted manufacturing rights on all of the products produced by either Crabtree or Hoe of London, while similar rights will be enjoyed by the latter two concerns insofar as the New York company's products are concerned.

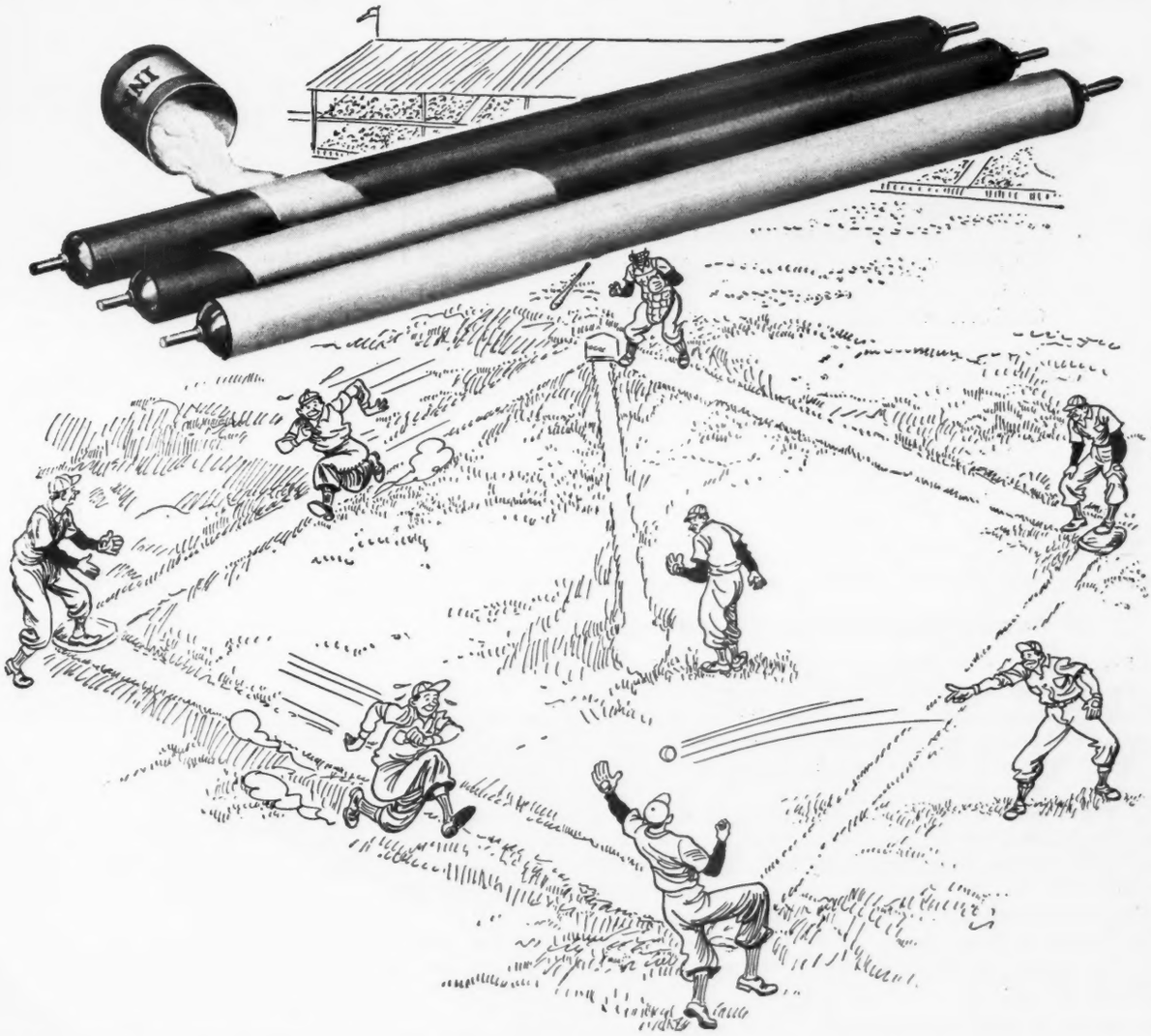
Beierwaltes Has New Job

The Watervliet Paper Co. announces the association of Jack Beierwaltes with its organization. Mr. Beierwaltes will be engaged in research work in the relation of printing ink to paper surfaces. Ultimately, his efforts will extend to technical service and sales activities. Jack Beierwaltes joined the E. J. Kelly Company as laboratory assistant in 1935 upon graduation from the University of Michigan with a B.S. in Chemistry. He was subsequently appointed advertising manager and later sales manager.

Jack Beierwaltes is now associated with Watervliet Paper Co. and will do research work related to ink and paper surfaces.

He has contributed a number of articles to the printing and paper trade magazines, and is a member of the International Association Printing House Craftsmen. His association with the Watervliet Paper Co. is expected to supplement the technical service facilities of that company in combining experience in the use and manufacture of printing inks with that of paper.

From Tinker to Evers to Chance!



Unity of performance from Ideal Synthox Rollers is another world-beating combination that will give you quality results time after time.

You want rollers that will pick up ink and pass it on down the line in smooth, velvety distribution. You want rollers that will maintain that uniform distribution regardless of the solids in your forms. You want Ideal Synthox rollers.

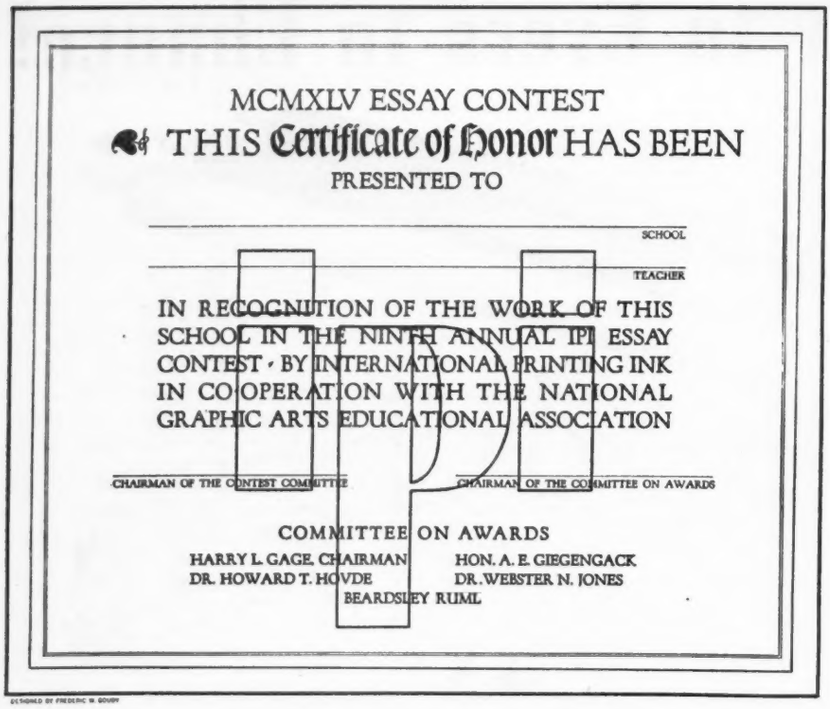
Save more than ever before.
Stop inflation!

There are no ink-starved spots on Ideal Synthox rollers. They give out instead of drinking in! You can change colors without fouling from the previous inking.

Synthox rollers are easy to clean, easy to handle and easily produce quality printing that will win you new customers by the score. How about giving Ideal Synthox a chance at bat?

IDEAL ROLLER & MANUFACTURING COMPANY

2512 West 24th Street, Chicago 8, Illinois ★ 21-24 Thirty-ninth Avenue, Long Island City 1, N.Y.


MCMXLV ESSAY CONTEST

THIS Certificate of Honor HAS BEEN PRESENTED TO

SCHOOL

TEACHER

IN RECOGNITION OF THE WORK OF THIS SCHOOL IN THE NINTH ANNUAL IPI ESSAY CONTEST · BY INTERNATIONAL PRINTING INK IN CO-OPERATION WITH THE NATIONAL GRAPHIC ARTS EDUCATIONAL ASSOCIATION

CHAIRMAN OF THE CONTEST COMMITTEE

CHAIRMAN OF THE COMMITTEE ON AWARDS

COMMITTEE ON AWARDS

HARRY L. GAGE, CHAIRMAN
HON. A. E. GIEGENGACK
DR. HOWARD T. HOVDE
DR. WEBSTER N. JONES
BEARDSLEY RUML

DESIGNED BY FREDERIC W. GOUDY

IPI Essay Contest Certificate Designed by Goudy

A NEW feature of the IPI Essay Contest is a Certificate of Honor especially designed for International Printing Ink by Dr. Frederic W. Goudy. The certificate will be presented to the printing teacher of each competing school in recognition of his cooperation in making the contest so successful. The contest is now in its ninth year and winners will be announced before the end of this school year.

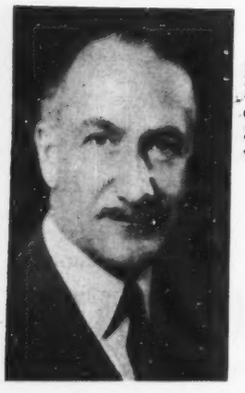
Dr. Goudy took a keen personal interest in designing the certificate. The words "Certificate of Honor" were especially designed and matrices cut for them as well as the outline of the trade mark "IPI". To make the letters fit perfectly the characters "ert", "if", "ca" and "fe" were cut as single units. The body text was set in Forum and the legends under the rules in Kennerley.

The Goudy certificate is the first of what is hoped to be a series of special designs by outstanding typographers. IPI announces that it is planned to have a new design each year.

EXECUTIVE Qs

(Continued from Page 53)

says, "I believe every industrial and business leader should play an important role in politics. It's the greatest thing in the world for the study of human nature . . . and for the welfare of the community and the nation." When you enter his office he makes you forget he is vice president. You see a friendly twinkle in his eyes, accentuated by a hearty, welcoming hand clasp and a full bass voice. His voice, incidentally, booms out from the bass section of a church choir, and is heard regularly in the Orpheus Club. After receiving his engineering degree at Stevens Institute of Technology, Mr. DeMott decided to translate his book learning into practical shop experience. His first job was with Worthington Pump Company, Harrison, N. J., at $1 per day. In 1941 he joined SKF at its New York, N. Y., office. Promotions quickly followed as district sales manager, manager of industrial development, assistant sales manager, general sales manager, and finally vice president. As president of Exhibitors Advisory Council, he is a guiding light for the show business in industry.



Richard H. DeMott, vice president, observes 30th anniversary with SKF.

Charles W. Matthew, formerly chemist with General Motors Corporation and, more recently, the Monte Laboratories, Dayton, Ohio, has joined the staff of Battelle Institute, Columbus, Ohio, where he is engaged in research on problems pertaining to the Graphic Arts industry. Mr. Matthew, who is a specialist in the industrial uses of synthetic resins, has a Bachelor of Science degree from the University of Wisconsin. He is a member of the American Chemical Society and the American Association for the Advancement of Science.

Lloyd D. Wright is the new Manager of East Coast Sales for the Goss Printing Press Company. Mr. Wright moved into the firm's New York offices in the New York *Daily News* Building recently. He joined the Goss Company in 1935, handling sales in the southeastern territory. When, in 1939, the Company went into naval ordnance work, Mr. Wright made his headquarters in Washington where he has done important work representing the Company in matters concerning government contracts. The eastern territory covers the states from Maine to Florida, northeastern Canada, and west as far as Ohio, Kentucky, Tennessee and Alabama. Harry S. Mount, vice president, continues in charge of the New York offices of the Company.

Lloyd D. Wright is new manager of East Coast Sales for Goss.

Charles J. Borntraeger, formerly chief machinist with the Toledo *Blade*, is now a production engineer with the Linotype Co., and is covering Iowa with headquarters in Des Moines. Harry L. Wilson, who formerly covered Iowa for Linotype, has been called to the company's Chicago office, where he is now serving as consulting production engineer. Mr. Borntraeger served his apprenticeship with the old Louisville *Evening Post* and continued with that paper as machinist until he moved to Florida to become mechanical superintendent of the Palm Beach *Times*. Returning north several years later, he worked as machinist with the Indianapolis *News*, and then became chief machinist with the Toledo *Blade*.

Chas. J. Borntraeger has joined Linotype Co. Will cover Iowa as production engineer.

Inks That Stick to Paper And Keep Hands Cleaner...

INK SMUDGED HANDS don't aid reader interest! That's why the new Huber News Black Inks will benefit every publisher, advertiser, and advertising agent. These inks *know their place*. They stick to the job of making a clear printed impression—and they keep hands cleaner.

These new Huber News Black Inks also eliminate build-up on angle bars, pipes, etc. They decrease first impression offset, give a cleaner, sharper reproduction, and lessen strike-through.

One of the three new types—HUBEREX, SUPREX, or ECONEX—is certain to exactly fit your needs. All are now obtainable at short notice. Consult your Huber representative or write any office of J. M. Huber, Inc.: New York, Chicago, St. Louis, Boston.

HUBER PRODUCTS — HUBER INKS — IN USE SINCE 1780

View in section of the makeup department of the Chester (Pa.) *Times*. After a survey conducted by engineers trained in illumination requirements, modern 48 in. fluorescent fixtures carrying two tubes of 40 w. each were mounted 48 in. above each work surface. Care was exercised to avoid glare from the type surfaces. "The new lighting is particularly valuable to the man working on the classified pages," stated Superintendent Nicholas M. Fellman.

racks built at the rear of the makeup tables. Modern 48 in. fluorescent fixtures bearing two tubes of 40 w. were mounted 48 in. above each work surface.

Care had to be exercised in placing these fixtures to avoid glare from type surfaces. This type of fixture has given excellent illumination in the makeup area, and is satisfactory. It is particularly valuable to the man working on the classified pages, a job that is at best a tough one on the eyes.

The same type fixture was mounted on electrical conduit pipe over the proofreaders' desks. This has made an ideal arrangement for the proofroom.

Vapor lamps and single-tube fluorescents, discarded in the makeup, were moved into the ad alley to improve illumination there. This, however, is a temporary arrangement that will ultimately be replaced by the two-bulb, 40 w., 48 in. fluorescent.

The Times pressroom is located below street level, and it is very important that proper artificial lighting be provided. The press, a four-unit Duplex Super Duty, is built on two floor levels, with the paper rolls loaded in the lower section. A wooden walkway is built along the top of the units at each side of press. Metal shields were fastened to the inside edge of this walkway, and 12 single-tube 48 in. 40 w. fluorescent tubes were installed. This arrangement has been in use approximately six months, and has been remarkably efficient, providing excellent lighting where it is most needed—inside the press frame and between the

(*Continued on Page 92*)

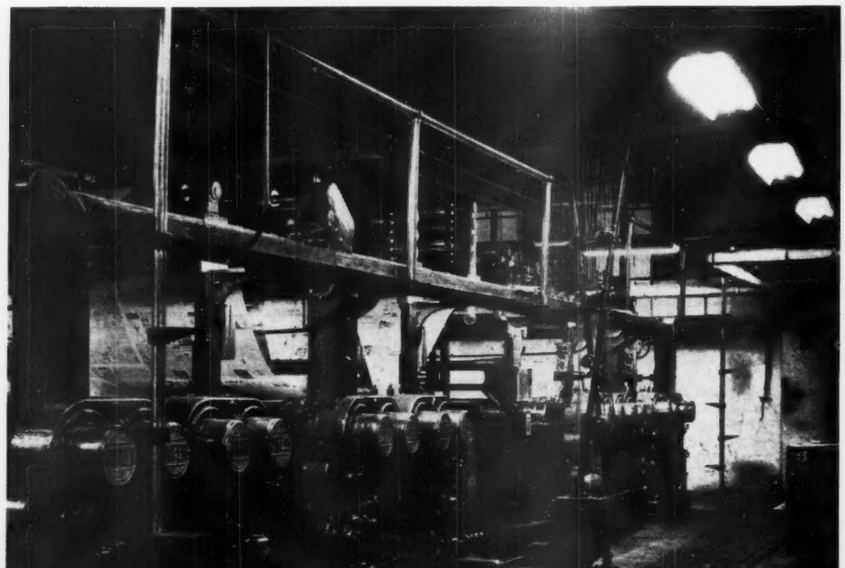
Plant Lighting Modernized

NICHOLAS M. FELLMAN, mechanical superintendent of the Chester (Pa.) *Times*, vice chairman of the PNPA (Pennsylvania Newspaper Publishers Association) Mechanical Committee, has reported to the PNPA that his newspaper has begun development of a lighting improvement program.

The first step was to institute a complete survey of the plant by engineers trained in illumination requirements. Investigation showed that what had been thought to be a fairly good arrangement of light fixtures was always just short of being right for the job.

In the commercial printing section, glass-steel diffuser fixtures were lowered to a height of 10 ft. above the floor level, and bulbs increased in size from 150 to 200 w. It was surprising the improvement these few simple changes made, said Mr. Fellman. The same operation was performed in the Linotype section of the composing room with similar results.

"Probably the most unsatisfactory illumination in *The Times* composing room had been in the makeup section," said Mr. Fellman, "and it was here the greatest change for the better was noted." The equipment previously consisted of three types of light fixtures—single-tube daylight fluorescent (100 w.), mercury-vapor (450 w.), and incandescent bulbs (60 w.), three of the latter being mounted in each of the material-carrying hoods over the steel makeup tables. The overhead hoods were removed, and what have proved to be very efficient material



In improving the lighting system in the plant of the Chester (Pa.) *Times*, Superintendent Nicholas M. Fellman reports that metal shields were mounted to the inside edge of the walkway on the Chester (Pa.) *Times's* Duplex Super-Duty four-unit press. Twelve single-tube, 48 in., 40 w. fluorescent tubes. In the illustration, notice the excellent lighting inside the press frame and between the units. Additional 48 in., 2-tube, 40 w. fluorescent fixtures were suspended from the ceiling to supply satisfactory general lighting on the press platform. Note excellent lighting within the press frame.

The spectrograph (above) and the metallograph (inset) are two of the ultra-modern devices used in our metal research laboratories.

RESEARCH RESOURCES ...Unlimited

BACK of every bar, pig and ingot of Blatchford Metal stand the extensive research laboratory facilities of National Lead Company. In these modern laboratories you will see highly specialized equipment for analyzing and testing metals and alloys. And you will also find that which you cannot really see—a restless, inquisitive spirit which never stops asking, "What can we do to improve this alloy? How can we give the buyer more for his money?"

Research that results in better alloys to insure better performance for better printing requires mind-power quite as much as machine-power. Blatchford Metal leadership that took root over 90 years ago depends today for its continuance on unlimited resources, of mind as well as of matter, for searching out new and better ways to give the printing trade a better and longer run for its type metal dollar.

Not the least of these laboratory services is the famous Blatchford Replacement Plan which helps users keep their Blatchford Metal operating at top efficiency.

NATIONAL LEAD COMPANY, Baltimore · Chicago · Cincinnati · St. Louis • E. W. BLATCHFORD COMPANY, New York • MORRIS P. KIRK & SON, INC., Los Angeles • AMERICAN LEAD CORPORATION, Indianapolis

Blatchford METAL

Meeting a Problem at the GPO

IN discussing Government and industry cooperation with respect to some of the problematical printing jobs which must be produced by commercial printers under supervision of the Government Printing Office, U. S. Public Printer A. E. Giegengack cited two instances. In an address before the Washington (D. C.) Club of Printing House Craftsmen recently he mentioned the gumming problem for gasoline rationing which had to be produced in several hundred million quantity.

He said: "In the early planning for gasoline-ration printing it was evident that the millions of individual coupons could not be efficiently handled from the consumer through the retailer, the distributor, and back into the OPA. To simplify this, a gummed bingo sheet, to which 100 stamps are glued, was designed. These sheets could be handled easily and they lent themselves to rapid inspection and test.

"The volume of these gummed sheets rapidly increased to the several hundred million mark. We reached the point where the gumming facilities of the country were not in a position to meet our requirements, except at very high cost. Therefore, a substitute method of production had to be developed and we hit upon the idea of printing the sheets on a rotogravure press and applying the gum in the same operation. One of the large gravure companies was contacted and requested to do a little experimental work in applying nonpoisonous and water-soluble gum to the sheet.

"After a few weeks of cooperative experimentation with various degrees of coverage and different gum formulas, including the development of special drying units, tension rolls, and delivery principles, the job was put on a production basis. The press is now producing at the rate of 2,000,000 sheets a day and printing the necessary gummed area from a regular gravure cylinder using glue instead of ink.

"I might also mention that many thousands of dollars were saved, as the price was reduced to approximately 65 percent of the original cost. This method of printing with gum on such a large scale was entirely new. It may have a wide application after the war.'

WPB Notes

Releasing Heavy Paper in Frozen Inventory

MEANS have been provided for the release of heavy weight printing paper held in "frozen inventory" by magazine publishers who have reduced the basis weight of their paper stock, the War Production Board announced recently. An amendment to Supplement 1 of the Magazine Limitation Order, L-244, effective immediately, provides that under certain conditions appeals will be granted for publishers to use such heavy weight paper and charge it against their quotas at the basis weight of the paper they are currently using.

Many magazine publishers who reduced the weight of their paper stock at the suggestion of the War Production Board have been unable to dispose of the heavier weight paper they formerly used and accordingly have held it in their inventories over long periods of time. The amended order provides a practical method of bringing this paper into use at a time when it is sorely needed, officials explained. It also provides that similar consideration will be given to appeals from publishers who reduced the trim size of their publications in the interest of conservation, and have since held in inventory rolls or sheets of a larger size than they formerly used.

Appeals will be granted only on the condition that publishers involved make compensatory reductions in their acceptance of paper deliveries below the tonnage that they are permitted to receive under Order L-244. This means that the appealing publishers will release considerable stocks of standard paper they might have bought in the market leaving it available for use of other publishers, it was stated. Favorable consideration will be given to appeals only in cases where the reductions in basis weight or trim size were made prior to October 1, 1944.

M-339
Has Been Revoked

CONSERVATION Order M-339 was revoked on May 16 by WPB. The order limited the amounts of copper and tin that manufacturers could use in producing printing plates. It was pointed out, however, that the revoke of the order will not result in immediately increasing supplies of copper and zinc for the production of plates. Delivery and use of these metals remain subject to WPB Order M-11-b and the CMP regulations.

Order M-11-b controls the use of slab zinc by rollers and polishers of zinc sheets, and CMP regulations continue to govern the allocation of copper for all purposes, it was stated by officials. Attention was also called to the fact that the revocation of Order M-339 does not affect any liabilities incurred for violations of the order nor actions taken by WPB under it.

What the "L" Revised and Reissued

FOR the third time, the Graphic Arts Association, Inc. of Washington 5, D. C., has issued its 34 page pamphlet entitled *What the "L" the WPB Means by the Seven "L" Orders Restricting Paper to the Printing Industry.* The publication was prepared by Meiric K. Dutton, Chief of Program and Distribution Staff, Printing and Publishing Division, WPB.

A warning to executives in the printing industry is contained on the front cover page to the effect that the end of the war in Germany will not bring immediate or extensive relief in the supply of printing papers. Consequently, all printing executives should keep themselves informed with the provisions of the paper orders affecting their business. The orders, identified by number, are as follows: L-240, Newspapers; L-241, Commercial Printing and Duplicating; L-244 Magazines and Periodicals; L-245, Books and Booklets; L-289, Greeting Cards and Illustrated Postcards; L-294, Displays, and L-340, Governmental Commercial Printing and Duplicating.

For the information of our readers, we want to tell them that Mr. Dutton has explained the orders in as simple language as possible. He also presents the orders in such manner that the parallel provisions of all seven orders are presented together so that overlapping features are clarified under the proper heading and with cross-references to the points of apparent differences.

Despite the fact that perhaps no one is more familiar with the seven paper orders than Mr. Dutton, we wish to compliment him upon his fine work in explaining them in such fashion that the reader can grasp easily the meaning of the orders without the necessity for struggling with formal legal language.

Will Make Reductions from Normal Quotas

BOOTH NEWSPAPERS, INC., publishers of The Bay City (Mich.) *Times*, charged with overuse of 26.3 T. of newsprint paper during the third quarter of 1943 and the four quarters of 1944, has been required to make appropriate reductions from the periodical's normal 1945 paper quotas, the Compliance Division of the War Production Board reported on May 3.

Consent Order C-326, issued May 3, 1945, states that Booth Newspapers, Inc., violated Limitation Order L-240, which restricts delivery and use of print paper. Reductions from the *Times*' paper usage during the remainder of 1945 are to be made as follows: second quarter, 12 T.; third quarter, 5 T.; fourth quarter 9.3 T.

(*Continued on Page 80*)

Patents

For The Graphic Arts Field

The patents reported here are those issued on April 17; April 24, May 1 and May 8.

This data is compiled exclusively for Printing Equipment Engineer by Invention, Inc., is verified in the United States Patent Office, and is comprehensive of all patents in the field of each heading for the dates specified.

For copies of patents listed here, specify the patent numbers and send 10c for each separate patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforating:

2,373,746. COLLATOR for use in small print shops where the cost of the usual large collator is prohibitive. A pair of spaced bins hold stacked paper which is to be manifolded. Each bin has a platform which may be elevated by a pair of spaced cranks beneath the platform to maintain the stacked paper at a selected height. The cranks are interconnected for maintaining them at an angle relative to the platform. A segmental ratchet secured to one of the cranks is engaged by a pawl, which pawl is rocked by a cam to release it at certain intervals allowing the ratchet to rotate in one direction. Invented by Albert Dager, Los Angeles, Calif. Assigned one-half interest to Elias Shaheen, Los Angeles, Calif. Application August 17, 1943. 5 claims.

2,375,190. BOOK MOUNTING EASEL which may be integral with the outer book binding or formed in a separate hard paper protective cover which slips over the book in envelope fashion. The upper right and left hand outer corners of the cover may be bent back with the index finger of each hand to form a triangular section on front and back of cover which serves as a stand or easel to support the book at a proper angle for reading or copying. The triangular sections are foldable on a diagonal line extending from the inner, upper corners of cover to outer lower corners and when set up, are at right angles to the book. Invented by Hugh P. Botts, New York, N. Y. One-half interest assigned to Laurence G. Botts, New York, N. Y. Application January 13, 1944. 12 claims.

Composing Room Equipment:

2,373,966 and 2,373,967. TYPE CHASE, especially for tag marking or printing machines as used in department stores. A rectangular frame has its opposite side walls notched, the notches extending vertically and being formed in upper edges of walls. A series of oppositely disposed vertical grooves are also in inner faces of opposite side walls of frame, the spacing between the grooves being different from the spacing of the notches. Grooves extend below notches in side walls. Several type-supporting plates or bars are placed crosswise in frame. The plates or bars have tenons fitting the notches and grooves and, by properly spacing plates or bars, different sizes of type may be used between the plates. Plates are latched in position either at top or bottom of chase. One side and one end of chase are hinged together, and at opposite end, overlapping extensions on side and end are apertured to receive a knurled-top screw which locks the parts together. Both invented by Frederick Kohnle, Dayton, Ohio. Both assigned to The Monarch Marking System Company, Dayton, Ohio. Application for both January 9, 1943. 1 claim, each.

2,374,469. PNEUMATIC CONTROL MEANS FOR PHOTO-COMPOSING MACHINES. See this patent classified under the "Plate Making" heading later in this report.

2,374,655. TYPE SLUG SIDE TRIMMER which cuts off the side of a type slug after it is discharged from a line casting machine, so as to eliminate variations in the thickness of the slug. The slug is precipitated by gravity down an inclined slot where a pusher feeds it to a rotary cutter which trims one side to exact parallelism with the other side and produces a finished slug of predetermined thickness. A hand wheel is fixed to the outer end of a bushing to facilitate its rotation and the periphery of the wheel is notched and calibrated. A spring detent which engages the notched periphery makes possible adjustment of the cutter by regular increments of 0.001 in., or ¼ of a printer's point. Invented by Charles W. Curle, San Francisco, Theodore C. Curle, Ross, and Ray F. Newton, San Francisco, Calif. Unassigned. Application October 31, 1941. 9 claims.

2,374,656. LOW SLUGGER, for type slugs, which intercepts and cuts away the upper edge of the slug as it is advanced down a chute, and continues this cutting until it approaches the type which projects upwardly from the slug. A roller carried by a trip bar engages and is raised by the type to swing the trip bar upwardly and actuate a mechanism which retracts the cutter. Roller then drops off the type and cutter returns to its cutting position after a sufficient delay to permit the type to pass clear of its cutting edge. The final cut eliminates that portion of the slug which might contact bulging paper during printing and cause offsetting or smudging of the unprinted paper. Invented by Charles W. Curle, San Francisco, Theodore C. Curle, Ross, and Ray F. Newton, San Francisco, Calif. Unassigned. Application October 31, 1941. 7 claims.

2,375,135. TYPEWRITER FOR PHOTO-COMPOSING single consecutive lines of justified characters of various widths. Justifying of the typewritten copy makes it suitable especially for lithographic plates. A set of composite character and space bars of elongated tapered construction have characters and justifying word spaces of varying widths spaced along the bar from one end to the other. The justifying spaces are of different sizes and are located at spaced points along each bar, segregating groups of word characters. Bars may be selectively moved and supported to dispose desired characters or spaces in the plane of composition line. A lost motion mechanism between bars and bar moving means permits slight longitudinal movement of the bars. Adjacent the impression line, the characters may be accurately aligned. Invented by Byron E. Reynolds, Jackson, Michigan. Unassigned. Application March 20, 1941. 4 claims.

Feeding, Folding and Delivery:

2,374,578. BLOWER HEAD FOR SEPARATION OF CARD OR PAPER STOCK being delivered to a printing machine in which the pressure of air blast may be controlled or varied to suit the particular weight or kind of paper stock being fed. The air blast is distributed over a large area of the sheet so as to separate it more definitely and positively from the pile. Springy fingers in the form of coiled wire springs contact the edges of any underlying sheets to prevent them being drawn upwardly with the topmost sheet and to keep such underlying sheets in proper position on the pile for subsequent feeding or lifting. Invented by Cecil Ambrose Bernard, West Coburg, Melbourne, Victoria, and William Arthur Seymour Pate, South Yarra, Melbourne, Victoria, Australia. Unassigned. Application November 9, 1943. 7 claims.

2,374,838. MECHANISM FOR FEEDING WRAPPERS, labels, or sheets in succession from a stack in which a suction peeler engages and adheres to the exposed surface of an end sheet of stack, near sheet edge. A shaft carries the peeler and gives a combined reciprocating and rotary motion to the peeler in relation to the stack so as to peel the end sheet from the stack. A needle is mounted on and rotates with peeler shaft but is free to move radially of shaft, a cam controlling radial movement of the needle.

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ZOMO ELECTRIC ZINC ◆ A-Z ELECTRIC ALLOY

The needle is positioned adjacent the end sheet on engagement of the end sheet by the pecler. It stays in this position during initial stage of peeling operation, thus piercing the end sheet and preventing the next sheet from following it. Invented by Alexander Russell, Matthew Parker, and Richard Anson Harris, Leeds, England. Assigned to The Gorgrove Machinery Company Limited, Leeds, England. Application November 25, 1943. 4 claims.

2,375,174. NUMBERING MECHANISM, for use in conjunction with a throw-out device, operating accurately to correct for the individual printed units discarded because of splicing defects. On occurence of a splicing operation, the numbering head is made inoperative and defective copies are offset from their ultimate normal delivery. Numbering head has a ratchet wheel and, on the machine frame a pivoted pawl is in the path of the ratchet wheel. An electro-magnet is controlled by splicing means for retracting the pawl from path of the ratchet wheel. A holding circuit for electromagnet is operated by the electromagnet and a circuit breaker is included in the holding circuit. Invented by Oscar C. Roesen, Scarsdale, N. Y. Assigned to Wood Newspaper Machinery Corporation, Plainfield, N. J. Application February 20, 1942. 5 claims.

2,375,413. COUNTER to be used in a paper converting machine in which a paper web is cut into sheets and stacked with paper marking strips or tabs, which are inserted between units of 100 or any other desired predetermined unit. The counter operates electrically and at the end of each unit selected for insertion of a tag, the counter will be automatically reset for counting the next unit. If visual indication of the count is desired, pilot lamps may be used. A series of relays and circuit connections are used, each relay being provided with means, upon the energization of such relay, to cut relay out of the circuit and to transfer impulse receiving circuit connections from the energized relay to the next successive relay in the series. By means of a selector switch and a resetting switch, impulse receiving circuit connections may be transferred from any predetermined relay back to first relay. Invented by John R. Guenther, Appleton, Wis. Unassigned. Application February 17, 1943. 15 claims.

2,375,451. WEB SYNCHRONIZING DEVICE in which registry of two webs of material is facilitated by automatically varying the tension so that one web may be stretched to a greater or less degree as required to compensate for variations in web length due to humidity and temperature conditions. The method consists in controlling the feed of a pattern ply by providing on the ply, indicating means repeated in synchronism with pattern repetitions. At spaced points the passage of indicator is detected. The pattern ply is continuously fed past such points and so tensioned as to vary the stretch so that indicating means will pass points at desired intervals. Invented by Marshall A. Waters, Chicago, Ill. Mitzi S. Waters, executrix of inventor, deceased. Unassigned. Application August 2, 1940. 21 claims.

2,375,542. BURSTING MACHINE which automatically separates a wide continuous web of stationery into separate form lengths at lines of weakening provided in the web between forms. In machines of this type the stationery strip is fed between two pairs of gripping rolls wherein the rear set is operating at higher speed than front rolls, and front rolls are usually provided with segmental gripping portions so that web is periodically released and maintained under control of a positive aligning device at front of machine. A friction feed is provided in back of front feed rollers, so as to restrain reverse movement of paper and assist in projecting the free end of web into the bight at rear feed-rolls. One or more crowned rollers are used on one of the auxiliary feed-roll shafts, so as to initiate bursting of web along line of weakening where it contacts crowned roller. An improved mechanism is provided for facilitating adjustment on frame of carriage which carries front feed-roll, and to facilitate locking the carriage in adjusted position. Invented by John E. Euth, Chicago, Ill. Assigned to United Autographic Register Co., a corporation of Illinois. Application March 16, 1944. 4 claims.

Miscellaneous:

2,375,330. MACHINE FOR STAMPING OUT DISPLAY CARDS in which the card is trimmed or cut to the contour of the picture or design that is printed or lithographed. The printed paper sheet and cardboard backing are brought into registration with each other just slightly before the outline or picture is brought into registry with the cutter. The cutting and pressing operations are performed simultaneously, after adhesive has been applied, thereby forming an adhesively-united, contour-cut, multi-ply sheet, in a single operation. Invented by Herbert O. Sperry, Drexel Hill, Pa. Unassigned. Application January 12, 1942. 7 claims.

Plate Making:

2,373,732. IMPROVED PROCESS FOR ETCHING, simultaneously, type matter and pictorial matter of any outline on an intaglio printing surface. The novel composite photographic positive has an actinic ray transmitting background on which is disposed type matter and pictorial matter, the picture areas being selective to screen actinic light rays to control and provide balanced exposure conditions during photo-etching operations. To secure this screening, the picture areas are preferably tinted and/or shaded, as by dyeing, during development. An actinic ray blocking screen is formed coextensively with picture area or areas by photo-chemical operations. Preferably this screen is formed during development on the same or opposite sides of film base as plate carrying the picture. Invented by Kurt Wolfson, Springfield, Mass. Unassigned. Application January 21, 1941. 11 claims.

2,374,469. PNEUMATIC CONTROL MEANS FOR PHOTO-COMPOSING MACHINES in which printing plate is supported in the machine and a backboard supports a light-sensitive surface in a plane parallel with, and spaced from, the plane of the printing plate. Relative movement between supporting means and backboard may be effected to position printing plate opposite different areas of backboard. Mechanism, effective in different relative positions of printing plate and backboard moves the backboard toward printing plate to cause engagement with the light-sensitive surface. Force is applied to the backboard pneumatically. Invented by Stephen N. Wekeman, Saddle River Township, Bergen County, N. J. Assigned to General Printing Ink Corp., New York, N. Y. Application December 24, 1942. 12 claims.

2,374,524. TRANSFERABLE SILK SCREEN STENCIL which may be used to prepare display cards for department store advertising. Method of making consists in producing a design on a silk screen in the form of a stencil, processing through this stencil onto transfer paper a film-forming liquid containing powdered aluminum to produce a film free of pinholes on transfer paper and then processing a second film forming liquid free of powdered aluminum over the first formed film and contiguous therewith. The second film acts as a protecting covering for the first film when combined films are secured to a second silk screen. Invented by Ernest Clair Bowers, St. Paul, Minn. Unassigned. Application May 19, 1941. 6 claims.

2,374,910. INDIRECT PHOTOMECHANICAL REPRODUCTION of printing surfaces that can be used in typography. A halftone printing block can be produced without utilizing a press-record and without the optical transformation of values. Process comprises producing an etching moulding ground which has a number of small depressions or recesses showing the reversed shape of a highlight-printable pattern. A negative carbon tissue image of the original to be reproduced is transferred, developed, and dried on the ground. The ground is etched, the resulting mold is cleaned and dried, and a cast taken therefrom. It is then inked and printed. Invented by Francisco G. Yanes, New York, N. Y. Assigned to Photoplastic Corporation, New York, N. Y. Application December 27, 1941. 22 claims.

2,375,210. ALLOY STEEL PRINTING PLATE made of stainless steels particularly those of the 18-8 type, containing 18% chromium and 8% nickel. Steel is subjected to electrolytic action, as an anode at a current density sufficient to effect a micro etching on its surface. The electrolyte used contains sulphuric acid and a second acid selected from the group consisting of chromic, vanadic, manganic, etc., and water. Such treatment is said to prolong the working life of the plate. Invented by Clements Batcheller, Glens Falls, N. Y. Unassigned. Application January 3, 1941. 12 claims.

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Printing Inks and Related Chemicals:

2,373,817. BORDEAUX BROWN DYE is produced by condensing 5-amino-2:1-(N)-anthraquinone-benzacridone with 1-benzoylamino-4-chloro-anthraquinone followed by a ring-closure condensation with aluminum chloride in nitrobenzene at temperatures below that at which any material amount of debenzoylation takes place, preferably at 50-100°C. The resulting color, after being acid pasted and treated in an acid suspension with an oxidizing agent such as an alkali metal bichromate, exhibits excellent printing and fastness properties. Invented by William Dettwyler, Pitman, N. J. Assigned to E. I. duPont de Nemours & Co., Wilmington, Del. Application December 12, 1940. 1 claim.

2,373,926. AZO DYESTUFFS which gives a variety of shades and is said to have good fastness to light and chlorine. It is prepared by coupling a diazotized primary arylamine free from water solubilizing groups such as carboxylic and sulfonic acids, to a hydroxy-benz-(a)-acridine, in which the hydroxy group is in position 2, 9 or 10. The benz-(a)-acridine nucleus may also contain halogen substituents such as chlorine. The dyestuff may also be produced by stabilizing the diazo in an alkaline medium with a compound such as 2-ethyl-amino-5-sulfo-benzoic acid, incorporating it with the coupling component in a printing paste, applying paste to fiber, and developing by steam or acidified steam. Invented by Joseph H. Terpagnier, Wilmington, Del. Assigned to E. I. du Pont de Nemours & Co., Wilmington, Del. Application June 17, 1943. 8 claims.

2,374,064. YELLOW AZO PIGMENTS of greenish hue which are especially useful in inks. The new pigments are said to be superior to older pigments of similar greenish shade and equal in strength and fastness to the redder pigments. They are made by diazotizing 2-nitro-4-chloraniline and coupling it to 2-methyl-3-chlor-aceto-acetanilide. Invented by Harold E. Woodward, Penns Grove, N. J. Assigned to E. I. du Pont de Nemours Co., Wilmington, Del. Application April 21, 1943. 4 claims.

2,374,070. PRINTING PLATE FOR OFFSET PRINTING. The plate is made of steel and its surface is treated to protect it from oxidation, not only when it is in use but also when not in use. The plate may be used in either the direct image or photolithic method, and is said to produce a greater number of printed copies and have longer endurance than any plate previously used. After the image (or images) have been applied to the grained surface of the plate, the surface is etched with a solution of ammonium phosphate, ammonium nitrate, ammonium fluoride, tartaric acid, ammonium bi-chromate, water and glycerine. Invented by Paul L. Barensfield, Cleveland, Ohio. Assigned to The American Steel and Wire Company of N. J. Application February 2, 1942. 13 claims.

2,374,106. NYLON DYEING, PRINTING, AND STENCILING is made possible in strong and level shades with water insoluble metallic complexes of mono-azo dyes which are not sulfonated and which are applied to the fiber from aqueous dispersions. The metallic complex may contain vanadium, nickel, chromium and other metals. Invented by Donovan E. Kvalnes, Penns Grove and Boyce G. Carson, Woodstown, N. J. Assigned to E. I. du Pont de Nemours & Co., Wilmington, Del. Application February 8, 1941. 8 claims.

2,374,220. RESIN OIL that is useful in printing inks, as well as in coating compositions, greases and lubricants, and for other purposes. A charge of dark-colored pine wood resinous fraction (gasoline-insoluble 57%) weighing 600 g. is distilled at 330-360 deg. C. for 7½ hrs. in an atmosphere of carbon dioxide. The volatile oils and water which distill off are continuously condensed and separated. Invented by Donald A. Lister, Brunswick, Ga. Assigned to Hercules Powder Company, Wilmington, Del. Application December 27, 1940. 1 claim.

2,374,485. UNSYMMETRICAL DI-N-BUTYL UREA is dealkylated by dissolving it and ammonia in a solvent comprising a lower aliphatic alcohol and heating a mixture of the resulting solution and an active nickel catalyst to 125 deg. C. at a pressure of 100 lbs. per sq. inch. The product is useful in the production of adhesives, surface coatings, as a pigment-dispersing medium in cold set inks, etc. Invented by Vernon E. Haury, El Cerrito, Calif. Assigned to Shell Development Co., San Francisco, Calif. Application April 10, 1944. 19 claims.

2,374,491. PITCH which is useful in the manufacture of printing inks and coating compositions as well as many other products. The pitch is produced by destructive distillation of resin derived from pine wood and which contains at least 35% gasoline-insoluble-resinous material. Invented by Donald A. Lister, Brunswick, Ga. Assigned to Hercules Powder Co., Wilmington, Del. Original application December 27, 1940. Divided and this application October 24, 1944. 3 claims.

2,374,602. TEXTILE PRINTING EMULSIONS are, by this process, prepared in the form of finished emulsions or may be in the form of an emulsion base containing little or no water which can be stored indefinitely. The oil phase water-in-oil emulsion is a pigmented heterogeneous dispersion of at least one water-insoluble, organic-solvent-soluble heat convertible resin in a volatile, predominately nonaromatic hydrocarbon vehicle. The dispersed phase is aqueous. Various esters are used in the composition. The emulsion may be applied to fabrics by means of an engraved printing roll. Invented by Roy H. Kienle, Bound Brook, and Alfred L. Peiker, East Bound Brook, N. J. Assigned to American Cyanamid Company, New York, N. Y. Application January 9, 1941. 9 claims.

2,374,667. PLASTICIZING AGENT which, when incorporated with casein and/or soybean protein, yields plastic products to be used in the preparation of coatings, as well as bindings, adhesives, paints, fibers, etc. It comprises a

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mixture of formamide with at least one substance from the group, glycerol, triethanolamine, diethanolamine, glycerol monoglycolate, triethylene glycol, ethanol acetamide and ethanol formamide. Invented by Charles Dangelmajer, Nutley, N. J. Unassigned. Application August 7, 1941. 4 claims.

2,375,012. STABLE ALKALINE PRINTING PASTES are prepared from the mixture of an ice color coupling component and the reaction product with an alkylol or alkoxyalkylol derivative by dissolving the mixture in a solvent such as water, alcohol, acetone, etc., together with alkalies, organic bases, impregnating agents, and thickeners such as starch, gum, etc. Cotton goods can be printed with the paste by using a copper roll. The print is then dried and later the desired color is developed by steaming in the presence of acetic acid vapors. Such prints are said to be bright and to possess remarkable fastness to light and washing. Invented by Paul P. McClellan, Old Greenwich, and Walter P. Ericks, Stamford, Conn. Assigned to American Cyanamid Company, New York, N. Y. Application August 27, 1942. 7 claims.

2,375,120. PORPHINE PIGMENT obtained by processing pigments of the phthalocyanine type. Process comprises diluting a sulfuric acid solution of the crude pigment containing a hygroscopic sulfonated alkylated monocyclic aromatic compound having more than one side chain carbon atom. The sulfonic acid present is at least 25%, by weight, of the pigment. The sulfonated hydrocarbon is removed from the pigment. Presscakes obtained by this method may be ground into various organic media for inks, lacquers, and other coating compositions. Invented by Serge A. Loukomsky, Bound Brook, and Harold T. Lacey, Plainfield, N. J. Assigned to American Cyanamid Company, New York, N. Y. Application November 8, 1941. 18 claims.

2,375,132. TEXTILE PRINTING PASTE containing a stabilized diazo compound, and particularly containing water-insoluble piperazine bis-diazoimino compounds. Composition comprises an emulsion, the inner phase of which is an aqueous alkaline solution of a diazo coupling component. The outer phase is a microscopic dispersion of a piperazine-bis-diazoimino compound in which both heterocyclic nitrogens of the piperazine are attached to a diazo group in a hydrophobic liquid capable of forming stable water-in-organic liquid emulsions. Invented by Roy A. Pizzarello, Mount Vernon, N. Y. Assigned to Interchemical Corporation, New York, N. Y. Application May 22, 1941. 1 claim.

2,375,177. LUMINESCENT INK which may be printed directly on the surface of metal, wood, or plaster board, or may be printed on a decalcomania transfer which later can be applied to the final surface. The luminescent ink is made of a luminescent pigment in a vehicle composed of a resin, capable of transmitting ultra-violet light to activate the pigment, and an evaporable solvent. A backing sheet is printed with the ink with a gravure plate to provide a luminescent coating having a surface complementary to surface of plate, and with a large number of small, closely spaced, convex raised portions. Coating is dried and transferred to a base material. Between base material and coating a light-colored reflection film is interposed, and bonded to base and coating without destroying convex raised portion of coating. Invented by Thomas S. Reese, University Heights, Ohio. Assigned to The Di-Noc Manufacturing Company, Cleveland, Ohio. Application February 18, 1942. 5 laims.

2,375,230. PRINTING INK, intended more especially for type wheel printers using impregnated ink-dispensing members. The ink is non-volatile and comprises methyl violet dissolved in a mixture of butyl carbitol and a glycol, the proportions of these solvents giving the mixture a surface tension of 25 to 40 dynes per centimeter. A specific example is: butyl carbitol, 34.3%; diethylene glycol, 26.4%; triethylene glycol, 15.3%; and soluble dye, 24.0%. Invented by Bernard L. Kline, Manhasset, N. Y. Assigned to The Western Union Telegraph Company, New York, N. Y. Application August 1, 1940. 7 claims.

2,375,259. HYDROSOL OF IRISH MOSS which can be used as a carrier in printing and lithographing inks, or in dyes, rubber, paint, etc. Irish moss is mixed in a body of water at least 25 times the weight of the dry moss, and held for ¼ hr. at the temperature of boiling water and then ¼ hr. at a temperature between 175 and 212 deg. F. Total duration of heating is not more than an hour. Hydrosol is then separated by centrifugal action, by settling and decanting. Invented by Gordon W. Stoyle, Wollaston, Mass. Unassigned. Application August 2, 1940. 5 claims.

2,375,660. METHOD OF PRINTING WITH THERMOPLASTIC INKS which uses (1) an intaglio or gravure cylinder in which the depth of the engraved cells is ⅓ to ½ of that normally used, and (2) an ink with increased pigmentation to give proper coverage and color intensity. This method requires that conventional cylinders be discarded and substituted by cylinders having a cell depth of 20 to 30 microns in the areas which produce solid color. An example of a proper ink, with parts by weight is: carbon black, 6 parts; gilsonite, 6.8 parts; methyl violet toner, 1.0 part; zinc resinate, 1.7 parts; petroleum base ink oil, 14.0 parts; hydrogenated soya bean oil, 10 parts; and candelilla wax, 60.5 parts. The amount of pigment differs with each type of pigment, varying from 6-15% of carbon black, to 30-50% of chrome yellow. Invented by Wilbur L. Jones, New York, N. Y. Assigned to Interchemical Corporation, New York, N. Y. Application December 26, 1941. 4 claims.

Printing Presses and Equipment:

2,373,991. CIGARETTE-MACHINE PRINTER in which a device for imprinting uniformly spaced sections of a continuous web of cigarette paper is combined with mechanism for applying bronze only to the imprinted sections of web. A pair of rotating rolls, which are covered with plush, is arranged to engage web and brush off surplus bronze that has been applied to imprinted web sections by the device. A pair of pivoted arms, each supporting one roll, may be adjusted to move rolls toward or away from web. Adjusting mechanism includes a pair of rotatable spindles, eccentrics mounted on each spindle and respectively engaging one of the arms, and springs urging arms against eccentrics so that rotation of spindles will vary the position of rolls with respect to web. Invented by Arthur Bell, London N.1, England. Assigned to American Machine & Foundry Company, New York, N. Y. Application September 24, 1942. 4 claims.

2,374,096. INKING DEVICE for applying aniline printing ink. Different surface speeds are maintained between two rolls contacting each other, one a smooth cylindrical roll which dips into the ink in an ink fountain, and the other a transfer roll having an intaglio screen surface. By causing the intaglio screen surface to travel at a higher speed than the cylindrical surface of the dipping roll, the resulting slipping and rolling contact between the surfacs insures an extremely uniform distribution of ink around the screen surface for transfer to the printing member in a thin, even film. Invented by Vincent E. Heywood and Dudley A. McRae, Worcester, Mass. Assigned to United States Envelope Company, Springfield, Mass. Application November 28, 1941. 2 claims.

2,374,194. PRESSURE ROLLER for use in printing machines, paper making machines and the like. An inner metal cylindrical shell is used in the resilient material, usually rubber or rubber substitute, between outside surface and shaft, and concentric with shaft. The roller comprises a conventional steel shaft, mandrel or core having a soft rubber base layer secured to it, an outer surface layer of harder rubber, and, as the feature of the invention, a pressure distributing layer of metal between the base layer and outer surface layer. All the layers are firmly banded together and heat conducting means are provided between the metal layer and the shaft so as to dissipate heat generated in the roller. It is said that sharper impressions may be obtained regardless of width of press or characteristics of material being printed. Invented by William F. Grupe, Lyndhurst, N. J. Assigned to Interchemical Corp., New York, N. Y. Application August 30, 1941. 2 claims.

2,374,385. BIS (OXYTHIONO) POLYSULFIDES are used as vulcanizing agents for synthetic rubber prepared by copolymerization of a conjuga'ed diene hydrocarbon and an alpha-methylene nitrile. The agent may be sub-

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- Cuts 'down' time due to metal troubles—you get more productive hours per machine.
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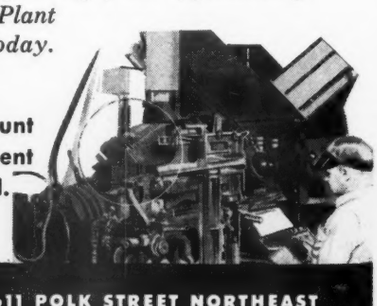

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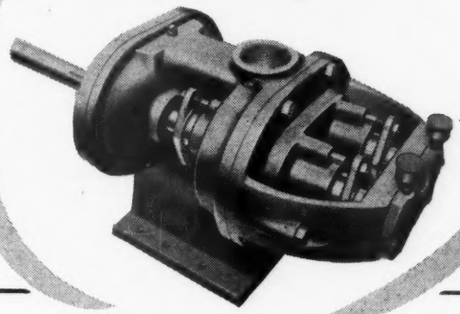
Pumps



BUMP Pumps furnish the ideal pumping equipment needed for efficiency without maintenance, on printing equipment. This, many equipment manufacturers have learned from experience. Bump Industrial Pumps are positive displacement types that deliver a constant volume per revolution regardless of speed or pressure, and without agitation, churning action, or vibration within the pumps. They are also capable of operating at slow speeds. Easy to install for any service and easy to maintain as there are only two moving parts in the pump.

ONLY 2 MOVING PARTS

NO CHURNING ACTION

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"You have a fine plant," was the press builder's parting word, "but don't forget that success or disappointment can depend on something as small as a dry mat."

Every step in the process of manufacturing Certified mats is carried out with full regard to the issues at stake—the tremendous plant investment, the millions of annual turnover, the expectant advertisers, the eager public . . . Certified research, production control and field service think always of mats in terms of a key product in newspaper publication . . . custom-built to meet your every requirement . . . keyed to serve your needs reliably.

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CERTIFIED DRY MAT CORPORATION

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Certified DRY MATS

stituted wholly or in part for sulfur. The rubber composition is useful in making printing rolls, rubberized fabric and other articles. Invented by Doran E. Sauser, Cuyahoga Falls, Ohio. Assigned by mesne assignments to The B. F. Goodrich Co., Akron, Ohio. Application May 17, 1941. 15 claims.

2,374,668. PRINTING PRESS that is capable of doing both direct and offset printing. A plate-platen roll bears a plate and a platen for offset printing and a plate or type for direct printing. A second roll having a transfer surface makes two revolutions for one revolution of the platen-roll thus rotating the transfer surface first in contact with the plate and then in cooperation with the platen. Second roll also serves as a platen for direct printing. A delivery chain twice the length of the periphery of the smaller roll with only one gripping unit thereon is operated so the sheet is released face up regardless of which face is printed. The same set of grippers is used for registration, stripping the sheet from the press, and delivering it. Invented by William Ward Davidson, Evanston, Ill. Unassigned. Application March 18, 1940. 34 claims.

2,375,237. APPARATUS FOR PRINTING LENGTHS OR MATERIAL with a repeat pattern in which a screen stencil is secured sufficiently taut to remain flat waile ink or color is forced through the permeable or pattern portions of its surface. Stencil is continuously rotated on an axis at right angles to its face. Design on stencil is arranged in a circle about the axis, the openings for producing the printed design and the spaces between them being progressively greater in length relative to the printed design from the axis to periphery of stencil. The increase in size of design on stencil on circles of which axis is center is proportionate to distance between two corresponding radii or circles. The material is fed across the face of stencil at one side of axis on a line at right angles to a radial line of stencil and the material is contacted by the stencil only on a radial line. Invented by Leo Morgan and Ross M. Johnson, Toronto, Ontario, Canada. Unassigned. Application June 28, 1943. 4 claims.

2,375,397. ROTARY PRINTING PRESS in which ink is supplied and conveyed to each of several type columns on the type cylinder by a mechanism including a number of pumps. Each pump has a frame and several plungers, each working in a bore in pump frame. A driven actuating frame is provided for the plungers. A casing, accommodating the pump frames in working and inspecting positions, serves as an ink reservoir, and seats the pumps and a support on which pump frames are slidable bodily from working to inspecting positions. Pumps are normally held against such slidable movement. Invented by William Arnold Whitehead, Preston, Eng. Assigned to The Goss Printing Press Company, Chicago, Ill. Application May 30, 1942. 5 claims.

2,375,603. CYLINDER FOR ROTARY PRINTING PRESSES in which novel means is provided for securing a rubber or zinc lithographic plate. A longitudinal slot is cut in cylinder body and extends the length of the cylinder. The slot is small in transverse diameter to receive an attaching flange at one end of the printing plate and the slot is inclined rearwardly at an acute angle with respect to cylinder surface. A shallow groove is also formed in cylinder, adjacent the slot and extending full length of cylinder. Groove has an adhesive tape filling of the "Scotch Tape" type. When flange of printing plate has been entered in slot, trailing edge of plate will engage adhesive groove and pressure exerted on plate causes it to adhere firmly. Invented by Robert P. Willard, Lewiston, N. Y. Assigned to Moore Business Forms, Inc. Corp. of Delaware. Application December 26, 1941. 8 claims.

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D.C

SAVE *MONEY* with Teletypesetter

by cutting cost of type composition nearly in half

The Teletypesetter system enables any printer to boost his output of machine-set straight matter by at least 50 per cent—and many plants have reported 100 per cent greater output after installing Teletypesetter.

Teletypesetter steps up production two ways—the perforator with its standard typewriter keyboard enables the operator to increase his speed by using the touch system, and the operating unit keeps the composing machine running at maximum speed all the time.

When used between distant points, the perforated Teletypesetter tape can be transmitted instantly by wire, thus making it unnecessary to punch the tape by hand more than once.

Teletypesetter has been saving time, money and errors for publishers and job printers for 13 years. As soon as our war job is done, Teletypesetter will be ready to *save* for you.

In the meantime, we shall be glad to accept your order for peacetime delivery. Write today for further details.

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During the 7th War Loan Drive, buy bigger, extra War Bonds!

TELETYPESETTER
REG. U. S. PAT. OFFICE

WPB Notes

(Continued from Page 74)

May Use 120 Lb.

CHEMICAL wood pulp printing Bristol paper of substance weight 120 pounds may be used by printers and publishers, as well as 90 and 100 lb. paper, the Paper Division of the War Production Board said on May 3. In the printing of the recently amended Schedule III to the Paper Simplification and Standardization Order L-120, the figure 120 inadvertently was omitted from this category, WPB explained.

Four Firms Charged With Paper Overuse

OVERUSE of 351,276 lbs. of paper by printers and publishers in Ohio and Michigan has resulted in WPB compliance action against four firms, WPB reported on May 2.

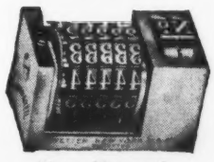
Rotary Printing Co., Norwalk, O. specializing in the production of Rotary Business Systems, was charged with overuse of 277,522 lbs. of print paper. This violation of WPB's commercial printing and duplication Order L-241 took place in the first quarter of 1943, officials said. Consent Order C-324, issued April 30, 1945, requires the corporation to reduce its paper use by 277,522 lbs. under normal consumption quotas, during the second quarter of 1945.

George R. and Paul N. Averill, commercial printers and co-partners in publishing The Birmingham *Eccentric*, a weekly Michigan newspaper, overused 30,922 lbs. of paper during 1944, in violation of L-241. Consent Order C-316, issued April 30, 1945, directs the firm to cut 15,461 lbs. of paper for commercial printing from its usual consumption quotas for each of the second and third quarters of 1945.

Palladium Publishing Co., Benton Harbor, Mich., publisher of the *News-Palladium*, used 36,243 lbs. of paper in excess of quota allowances, during the first, second and third quarters of 1943. This violation of newspaper Order L-240

NOW FOR THE NIPS!

THEIR DAYS ARE NUMBERED, TOO



Wetter Nonpareil
One of many models

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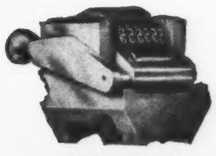

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WETTER NUMBERING MACHINE CO.
ATLANTIC AVE. & LOGAN ST., BROOKLYN, N. Y.
Sold by all dealers and branches
AMERICAN TYPE FOUNDERS

BEST IN THE LONG RUN

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Morley Trutone Mats have eye appeal too! They make a deeper, more lasting impression... Naturally Trutone Mats are best in the long run.

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resulted in issuance on April 30, 1945, of WPB Consent Order C-321, directing the publisher to cut 36,243 lbs. of print paper from its permitted quotas by July 1, 1945.

Sentinel Printing Co., Holland, Mich., publisher of the Holland *Evening Sentinel*, was charged by WPB with overuse of 6,589 lbs. of print paper during the second and third quarters of 1944, in violation of L-240. Consent Order C-322, issued April 30, 1945, requires the printing firm to reduce its usual quota by 6,589 lbs. of print paper before July 1, 1945, WPB said.

Von Tress Succeeds Shook

EDWARD C. VON TRESS, of Evanston, Ill. has been appointed acting deputy director of the War Production Board's Printing and Publishing Division, succeeding Donald G. Shook, Washington, D. C., who is retiring to private business. Charles J. Bevan has succeeded Mr. Von Tress as administrator of the Magazine Order, L-244, and as acting chief of the Magazine and Periodical Section, Mr. Steinman said.

Order L-78 Revoked

LIMITATION Order L-78, governing manufacture and distribution of fluorescent lighting fixtures, was revoked on May 9 by the War Production Board. Other orders and regulations that affect manufacture and distribution of the fixtures remain in force, however, WPB pointed out. L-78 was originally issued in April 1942, to effect savings in steel, copper, mercury and other materials critical at that time. The order, which at first prohibited the manufacture of all fluorescent lighting fixtures except for essential uses, as defined, was amended as the material supply situation changed.

Ballasts, the chief essential component in these fixtures, will continue to be in short supply, owing to heavy military demand for radio and radar equipment, WPB officials said. Lack of ballasts will prevent immediate expansion of production far beyond present levels, they pointed out.

Enforce Magazine Print Paper Regulation

PUBLICATION of 37 comic magazines and five detective periodicals has been halted since February 5, 1945, when WPB enlisted the aid of printers and distributors in a drive for enforcement of its magazine print paper regulation, Limitation Order L-244, WPB reported on May 23.

In addition, WPB also has notified 21 publishing concerns, producers of almost 40 magazines, that they have no consumption quotas. To halt the printing and sale of their publications, WPB's Printing and Publishing Division in May issued a notice to printers and distributors listing the names of the publishers and the titles of their magazines.

The comic magazines *Pop Pop* and *Twinkle* were among the first to be withdrawn recently from New York newsstands, when distributors were notified that the publishers lacked WPB quotas. On the May 1945 list sent to printers and distributors are many additional titles.

More than 5,000,000 copies of 17 comic and detective magazines were "frozen" before printing was completed or before they reached the newsstands. Now held in warehouses, these magazines may be sold as waste paper for ultimate conversion into V-boxes, containers for blood plasma and K rations, bomb bands and other war materials, WPB said.

WPB Revocations

M-112 AMENDED—Issued May 12 by Tin, Lead and Zinc Division. Title "Antimony". Provides for reports from persons having or using 1000 pounds a month and for applications for allocations of antimony to be by grades.

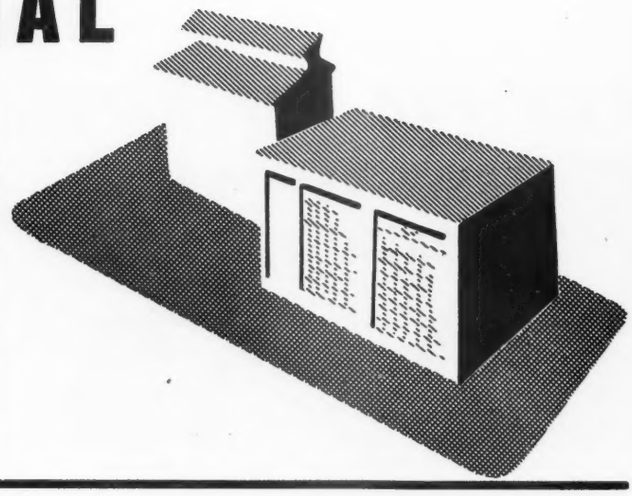
L-89 REVOCATION—Issued May 14 by General Industrial Equipment Division. Title "Elevators and Escalators". Revokes the order.

M-9-c REVOCATION—Issued May 12 by Copper Division. Title "Copper". Revokes the order.

M-9-c-1 REVOCATION — Issued May 12 by Copper Division. Title "Copper". Revokes the order.

M-9-c-2 REVOCATION — Issued May 12 by Copper Division. Title "Copper". Revokes the order.

Hamilton Equipment
is **ESSENTIAL**



Whatever kind of printing plant you operate, there is a requirement in it for Hamilton equipment. You may set type by hand or by machine, or you may buy all your composition "outside". Before type forms go to the press, necessary work must be done on them. This work is done best on Hamilton Type Cabinets and Hamilton Imposing Tables.

Handwork is expensive and should be done only under conditions that will promote efficiency. There is a Hamilton cabinet to fit every composing room need.

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HAMILTON MANUFACTURING COMPANY

NEWSPAPER MECHANICAL EXECUTIVES

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Consult us as we are interested in surplus equipment you wish to sell or trade in on other equipment.

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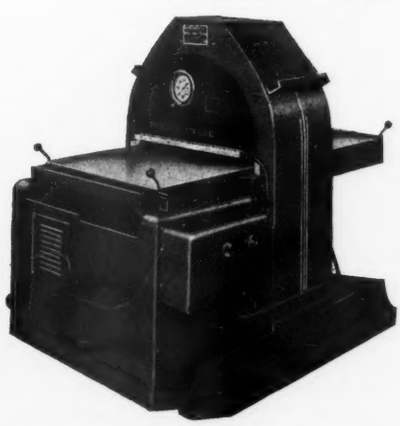
Investigate the

STEREOTEX HYDRAULIC

for better black-and-white and color mats



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800 Tons
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Built by America's leading hydraulic press builders, the Stereotex Hydraulic Matrix Press incorporates important patented features. Its greater strength, speed and accuracy make it the choice of discriminating buyers. Write to—

STEREOTEX MACHINERY CO.
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and THEY NEED YOUR HELP TO WIN . .

- Your War Bond purchases must continue—and you must keep the Bonds!
- Donate your blood at the Red Cross Blood Bank—and help save the lives of our wounded!
- Don't patronize Black Markets. They are un-American!
- Stay on the job — Our boys need ships, planes, tanks, guns and munitions in greater quantities than ever. If you quit — you help the enemy and let our fighters down. Your boy may be one of them!

At Challenge we are backing the fight as outlined above and building equipment for the armed forces and for plants engaged in vital war production. A small percentage of our facilities are devoted to the manufacture of replacement parts and the replenishing of vital stocks. Write us your needs—we may be able to help! Priorities, of course, are required on some items.

★ Let's Finish the Job - Buy More War Bonds!

THE CHALLENGE MACHINERY COMPANY
"Over Fifty Years in the Service of the Graphic Arts"
GRAND HAVEN — MICHIGAN

M-9-c-4 REVOCATION — Issued May 12 by Copper Division. Title "Copper". Revokes the order.

L-126 REVOCATION—Issued May 14 by General Industrial Equipment Division. Title "Industrial and Commercial Refrigeration and Air Conditioning Machinery and Equipment". Revokes the order.

L-267 REVOCATION—Issued May 16 by Consumers Durable Goods Division. Title "Photographic and Projection Equipment, Accessories and Parts". Revokes the order.

L-226 REVOCATION—Issued May 16 by Printing and Publishing Division. Title "Printing Trades Machinery and Parts". Revokes the order.

M-339 REVOCATION—Issued May 16 by Printing and Publishing Division. Title "Copper and Zinc for Printing Plates". Revokes the order.

L-250 REVOCATION—Issued May 17 by General Industrial Equipment Division. Title "Electric Motor Controllers". Revokes the order.

M-241, DIR. 3—Issued May 16 by Pulp and Paper Division. Establishes certification of persons whose use of newsprint is not controlled.

L-120, DIR. 1 AMENDED—Issued May 18 by Pulp and Paper Division. Title "Restrictions on the Manufacture of Book Grades Envelope, Etc." Revises terminology; includes converting grades of papeteries under chemical wood writing papers; includes Bleached Kraft with under commercial wood envelope papers.

L-120, AMDT. 1 TO SCHEDULE 1 —Issued May 18 by Pulp and Paper Division. Title "Paper and Paperboard for Use in Commercial Printing". Removes reporting requirements for orders involving cover paper.

L-120, AMDT. 1 TO SCHEDULE 2 —Issued May 18 by Pulp and Paper Division. Title "Paper and Paperboard for Use in Book Publishing". Removes reporting requirements for orders involving cover paper.

L-120, AMDT. 2 TO SCHEDULE 3 —Issued May 18 by Pulp and Paper Division. Title "Fine Writing Papers". Removes reporting requirements for orders involving cover paper.

M-93, DIR. 1 AMENDED—Issued May 19 by Pulp and Paper Division. Title "Preferred Status of Certain Deliveries and Uses of Wood Pulp." Deletes certain grades of paper or paperboard having preferred status of production and adds new paragraph relative to required adjustments on company-wide basis in certain cases. Related forms WPB-699 and WPB-2973.

M-286 REVOCATION—Issued May 19 by Pulp and Paper Division. Title "Specialty Papers". Revokes the order.

Print Paper Overuse Adjusted

THE Fort Worth (Tex.) *Star-Telegram*, published by Carter Publications, Inc., has been charged by the War Production Board with overuse of 349.39 T. of newsprint paper in 1943 and 1944 and must cut 349.39 T. from its normal paper consumption at the rate of not less than 87.34 T. in each quarter of 1945, WPB's Compliance Division reported on May 9.

Newsprint May Be Used for Wrapping and Packing

DESPITE the shortage of newsprint and the need for its conservation, chiefly for printing, it may still be used for such historical purposes as protective packing and wrapping, the War Production Board said on May 16.

Under currently issued Direction 3 to Conservation Order M-241, which restricts production and establishes a reserve of paper and paperboard, any person whose use of newsprint is not controlled by a WPB printing, publishing or conversion order may obtain it under specified conditions. A purchaser must certify to the seller and WPB, subject to the United States Criminal Code, that he is permitted to order and accept newsprint and that there is no WPB order controlling his proposed use, which must be stated, WPB Paper Division officials explained.

A recent amendment to Order M-241 required all purchasers of newsprint to certify that the paper purchased would be used or delivered, or that it was required to replace newsprint used or delivered, under one or more of the WPB's eight printing and publishing limitation orders or Conservation Order M-241-a. This prevented some legitimate long-

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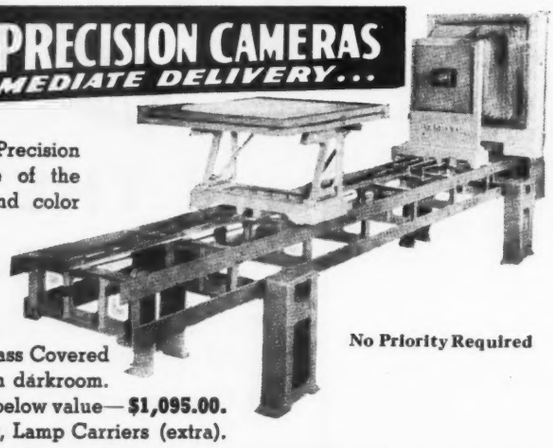

The Consolidated Valette Precision Darkroom camera is one of the finest black and white and color cameras on the market today. This camera is ideal for economical, fast production. Equipped with accurate Scale Focusing system and Tilting Type Glass Covered Copyboard. All Controls in darkroom. This camera is priced far below value—**$1,095.00.** Accessories, Vacuum Backs, Lamp Carriers (extra).

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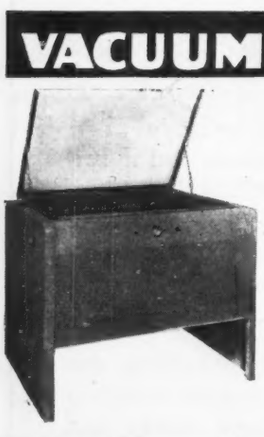
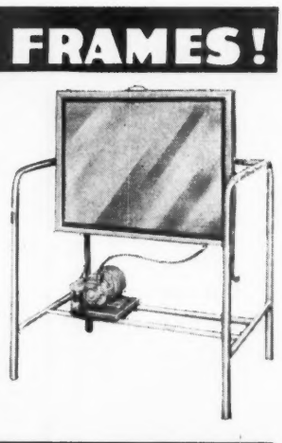


The Consolidated Valette Printing Frame. Modern in design. Efficient operation. Sturdy construction.
20" x 24".....**$220**

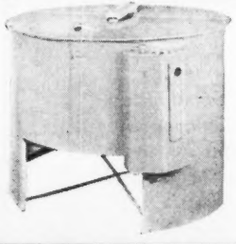
The Consolidated Tubular Constructed modern Vacuum Printing Frame.

SIZES:
17" x 22".....**$165**
22" x 28".....**$195**
Fob Chicago, Crating Extra



OFFSET WHIRLERS!

The Consolidated Valette Whirler. Modern in design. Easy to operate. Equipped with electric heating elements. Variable speed control. 1-26 x 37.....**$350**



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6-30 inch shears at **$161.00** plus crating charge Fob Chicago.

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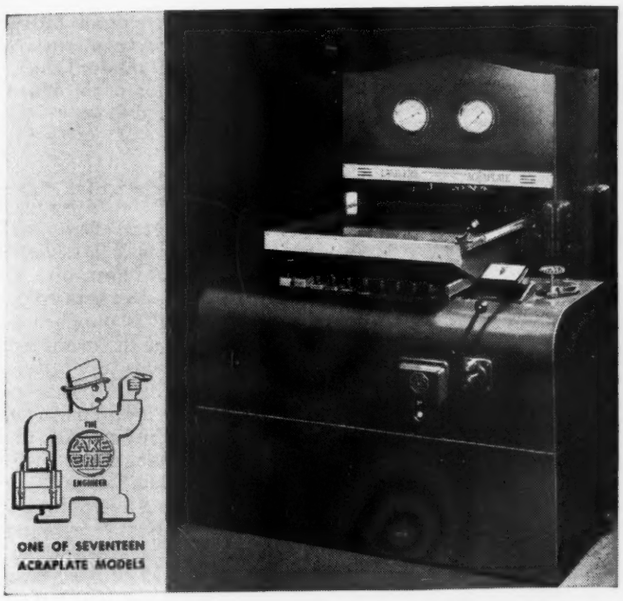

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LAKE ERIE ACRAPLATES for perfect rubber and plastis plates.

RIGHT
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NOW, after four long years of W.P.B. restrictions, is the time to beat your competitors to the advantages and economies of Lake Erie plate making equipment. Restriction L-226 has been withdrawn by W.P.B.! It's the opportunity you have been waiting for!
Add your name at once to the list of progressive graphic arts firms who have already placed unrated orders for early delivery of these precision units. It's first come, first served, as limited only by the availability of basic materials, so get your order in immediately. Or write for complete details and mechanical specifications of either the Directomat or Acraplate, or of both. Lake Erie Engineering Corporation, 568 Woodward Avenue, Buffalo 17, New York.

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TYMPAN PAPER

Transfer of ink from draw sheet to paper is the common enemy of all printers. Interrupted press runs for frequent tympan cleanup are costly and often result in loss of quality when ordinary draw sheets are used.

The use of "Spherekote" Tympan Paper has changed this. Only a minimum of ink can gather on "Spherekote's" smooth, glass-beaded surface and the build-up of ink and offset spray is greatly reduced. Work and turn forms can be backed up immediately without waiting for the first side to dry thoroughly.

You can increase the efficiency of your pressroom with "Spherekote." Write today for the booklet, "The New Pressroom 'Pet'," which gives complete information about "Spherekote" and how it will give you better printing results.

3-M
MANUFACTURED PRODUCTS
MINNESOTA MINING AND MANUFACTURING CO.
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Please send us your booklet "The New Pressroom 'Pet'."

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Firm.....
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City..... Zone..... State.....

standing users from securing this type of paper. Officials pointed out that now, under the new direction, use of newsprint for protective packing and wrapping is permitted, provided proper certification is made.

Cited for Overuse of Newsprint

THE Los Angeles (Calif.) *Examiner*, published by Heart Publications, Inc., overused 736.24 T. of newsprint paper during the first three quarters of 1944 and must cut 437.24 T. of paper from its permissible quotas during the third and fourth quarters of 1945, the Compliance Division of the War Production Board reported on May 19. The paper "payback" allowed for deduction of 299 T. of print paper made from allowable consumption tonnages by the Los Angeles *Examiner* as a less-than-quota saving during the fourth quarter of 1944, WPB officials said.

Fell is Reconversion Officer for Period One

DAVID B. FELL is one of the reconversion chairmen appointed on May 24 for approximately 400 industries for Period One. Period One is the name given to the time between victory in Europe and victory over Japan. Mr. Fell is reconversion officer for the Printing and Publishing Division of WPB, and will administer Code No. 226 printing trades machinery and equipment as well as Code No. 823 repair parts. Meiric K. Dutton will administer Code No. 212 Binders and parts for loose leaf and Code No. 229 Photoengravings.

WPB announced that the move in appointing the reconversion chairmen is in line with its intention of facilitating the change-over from military to civilian production whenever it can be done without detriment to war production.

Revokes M-286 Specialty Papers Order

RESTRICTIONS on the use and distribution of specialty papers, including glassine, greaseproof and vegetable parchment, have been removed by revocation of Conservation Order M-286, the Paper Division of the War Production Board reported today.

Remelting Suggestions

Imperial Type Metal Co. has had printed a new edition of *Remelting Suggestions*. This takes the form of a heavy card, 9 in. by 12 in. size, printed in red and black. The card is punched ready for hanging in or near the metal remelting room. Instructions are given for doing metal remelting work properly, including suggestions for preparing metal samples for analyses by Imperial. On the reverse side of the hanger are shown in illustrated form the pig molds and tools for doing the remelting and fluxing operations. You may address your request to Imperial Type Metal Co. direct, or *Printing Equipment Engineer* will pass along your request.

Vari-Typer Booklet

Published in 8½ in. by 11 in. size, and consisting of 16 illustrated pages in color, Ralph C. Coxhead Corporation has published a booklet *Vari-Typer, a New Tool for Business*. The machine, a modified typewriter, is adapted to furnishing copy for the offset-lith reproduction, business typing and stencil and hectograph duplication. The automatic justification models produce copy with equi-distant or even right-hand margin from 1.9 in. to 7.4 in. wide. Booklet shows how machine operates and was composed on the Vari-Typer. A copy may be obtained by writing on your business letterhead to the company mentioned above at 333 Sixth Ave., New York 14, New York.

Gorie Succeeds Schill

The International Printing Ink Division of Interchemical Corporation announces the retirement of Carl A. Schill after 43 years in the Graphic Arts industry. Mr. Schill has been manager of the Cleveland Branch of IPI since it was established in 1928. He will be succeeded by William J. Gorie. His appointment as manager of the Cleveland Branch continues the International Printing Ink Division's policy of selecting men from within the company wherever possible to fill key positions.

It has also been announced that Maurice A. Schill has returned to the

TO THE NEW YORK HERALD TRIBUNE

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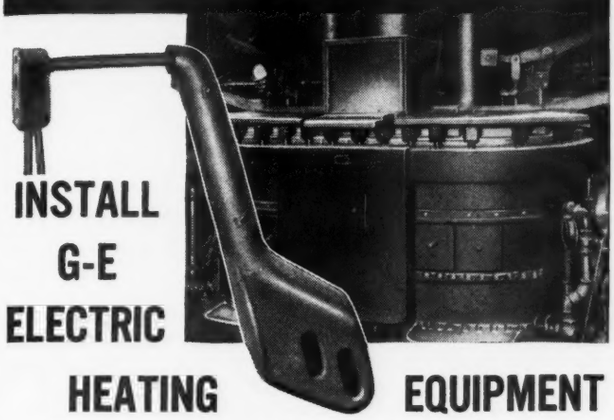

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Cleveland Branch after four years in the Pittsburgh area.

Joins Linotype Co.

Wallace B. Ostroot, former superintendent of the Holden Printing Co., Minneapolis, and president of the Minneapolis Club of Printing House Craftsmen, has joined the Linotype organization as a production engineer in

Wallace B. Ostroot, former plant superintendent joins Linotype Company

Minnesota and North and South Dakota. His headquarters will be in Minneapolis. He served his printing apprenticeship with the Watertown (S.D.) *Herald* and then for fifteen years worked for the Augsburg Publishing House of Minneapolis.

Perry A. McCaskey of Cleveland died in April in his apartment at Park Lane Villa. He was 77. He was inventor of the McCaskey register. He organized the McCaskey Credit Register Co., in Alliance, O., to manufacture it. He also organized the Minerva Wax Paper Co., of which he was president until 1944. He was active for many years in Lakewood, O., civic affairs for many years.

At a board meeting held recently, Albert L. Bergstrom was elected vice president of all engineering for the Timken Roller Bearing Co. Bergstrom, born in Sweden, graduated from Royal Technical Institute in Stockholm, Sweden, in mechanical engineering, came to this country in 1924, and became designing engineer for the Stearns Conveyor Co. of Cleveland. Bergstrom remained with Stearns until 1929 when he came with The Timken Company as development engineer. He was given various engineering and development assignments, later became chief works engineer, and in 1938 was made executive engineer. In his new duties as vice president of engineering, he will have complete charge of all engineering activities.

Cincinnati Auction Successful

Spirited bidding prevailed at the book auction held Thursday, May 10, by the Cincinnati Club of Printing House Craftsmen. Perry R. Long, first president of the International Association of Printing House Craftsmen, was guest auctioneer.

One hundred thirty-four books of interest to printers were donated and autographed by prominent Craftsmen. A copy of the *Style Manual* of the U. S. Government Printing Office was autographed by Hon. A. E. Giegengack, Public Printer, for the auction.

Another feature of the meeting was a display of interesting and unusual items from the collection of Lee Augustine, a Cincinnati Club member. His display included a Colonial bill printed by Benjamin Franklin, a page from the Catholicon, reputed to have been printed by Johann Gutenberg in 1460. Other items were a copy of William Savage's *Hints on Decorative Printing*, the first book about color printing, and Karl Senefelder's original book announcing lithography in competition to his brother, Alois Senefelder, the actual inventor of lithography.

Of interest in the display were the elaborate and highly-colored business cards of the seventies and eighties and a collection of pictures of printing presses of 50 and more years ago.

Booth Passes

Ernest A. Booth, 66, president of E. A. Booth Rubber Co., Cleveland, passed away at Cleveland Clinic on Wednesday, May 9 after an illness of six weeks. Services were held at First Unitarian Church, Cleveland. Surviving are his wife, Carolyn Joslyn Booth; a son, Major Royden C. Booth, a member of General Eisenhower's staff, and two daughters, Mrs. Dorothy Lewis and Mrs. Robert Boarman.

Retired Paper Currency Destroyed By New Method

THE United States Treasury department is putting into operation a new method and plant for destroying retired paper currency. Heretofore, currency has been destroyed by burning it, but in view of the present necessity for reclaiming paper for reuse, the new method of disposing of retired currency permits its reuse in the form of pulp from which new high grade commercial paper can be made.

The new paper currency disposal method was developed by the laboratory of the Wood Flong Corporation at Hoosick Falls, N. Y. For over a year, the laboratory has been working on the problem.

When the problem of dry grinding the currency was first considered, there was some doubt as to whether it could be done because of the high level of the paper strength.

The money which is to be destroyed is introduced into a disintegrator. It is dry-ground and is then passed through an 8 mesh screen. It is then passed through a cyclone dust collector and placed in bins.

It is reported that the security agencies of the Treasury Department subjected samples of the ground currency to closest scrutiny but could not find the slightest remnant of undestroyed currency.

The new method for destroying retired paper currency has been brought to the attention of other government departments having paper destruction problems. OPA has adopted the process for disposing of coupons and stamps and several other agencies are also considering adopting the same procedure. It is stated that approximately 5 T. per day of retired currency will be processed by the Treasury Department alone.

Expands Carbon Black and China Clay Production

A series of major steps to expand the production of carbon black took definite shape with the announcement that the J. M. Huber Company reports its new channel-carbon black plant at Borger, Tex., is nearing completion, announced R. Eagles, vice president.

A new furnace type plant is also under construction at Borger, scheduled for completion in July. These plants, together with a furnace black plant completed in 1944, are financed by Huber. In addition, a Defense Plant Corporation channel plant, to be designed and operated by Huber, is expected to get under way shortly. The ultimate effect of this expansion program will be to increase Huber carbon black production from 50,000,000 to 93,000,000 lbs. per year.

The Huber Company is also producer of china clay, which plays an important part in many synthetic rubber compounds. To meet the heavy increased demand, Huber is rushing construction of a new clay refining unit, capacity 25,000 T. per year, in connection with its other rubber clay plants at Langley and Graniteville, S. C. Huber's production of paper clays is centered at Huber, Ga.

The basic "Scotch" Cellulose Tape patent of Minnesota Mining & Mfg. Co. has been upheld by the Federal District court at Chicago. In a decision dated May 28, Judge John P. Barnes of the United States District court, northern district of Illinois, eastern division, found for the plaintiff St. Paul concern in its action against International Plastic Corporation of Chicago, in which it charged infringement of its basic patent covering the transparent, pressure-sensitive tape originated by R. G. Drew and developed and marketed by 3-M Company for many years under the trade name, "Scotch" Cellulose Tape. The plaintiff 3-M Company was held to be entitled to a permanent injunction and an accounting against the defendants. David A. Smart of Chicago, publisher of *Esquire* magazine, who is a principal stockholder of International Plastic Corporation, was also a defendant in the suit.

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The text of the book is such that the language of the research scientist and the technician so far as possible have been brought together through the use of printers' language.

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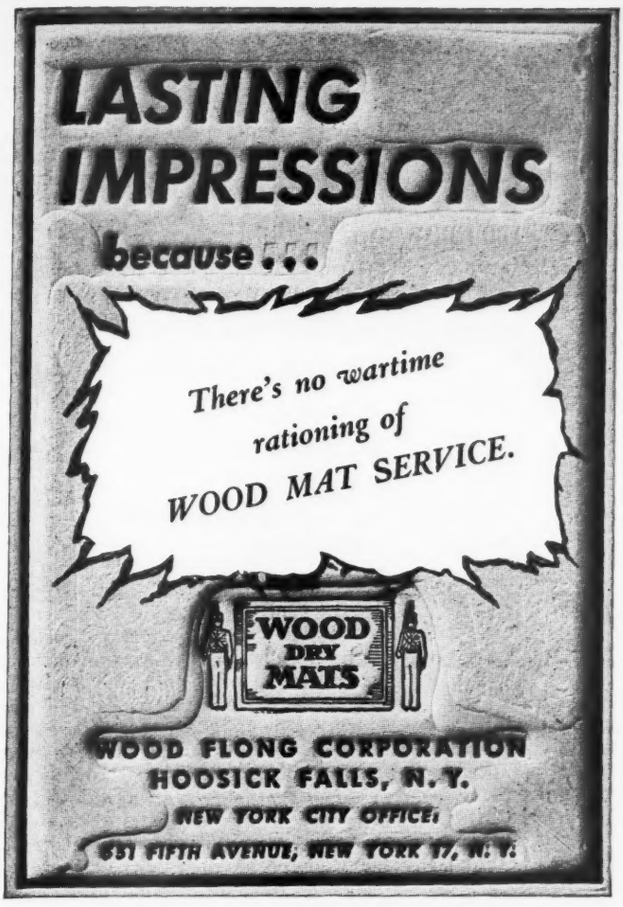
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LTF Elects Officers

E. H. Wadewitz, President of Western Printing & Lithographing Co., will again serve as president of the Lithographic Technical Foundation in 1945. Wadewitz was one of three officers of the industry's research and educational institution who were reelected to office at the annual board of director's meeting at the Edgewater Beach Hotel in Chicago on May 10.

Serving with Mr. Wadewitz will be L. H. Jackson as vice president and R. R. Heywood as treasurer. The newly elected officer and director is William H. Walters, U. S. Printing & Litho. Co., who succeeds William Ottmann, retiring member of the board of directors as secretary of the organization.

At the annual members' meeting, which preceded the board of directors' session, five new directors of the Foundation were elected. They were Messrs. George Olmstead of S. D. Warren Paper Co., Harry Platt of Sackett & Wilhelms Co., Wm. H. Walters of U. S. Printing & Litho. Co., George Hall of Western Litho. Co., and Leonard Knopf of the Meyercord Co. The latter was reelected after serving a one-year term on the Board. Another unexpired term will be filled by Rudolph Mathesius of Newman-Rudolph Co.

Wade E. Griswold, executive director of the Foundation presented a report on the progress of the research and educational programs during the past year, both at the Lithographers' National Association board meeting and at the Foundation's own member and board meetings.

Opens Boston Office

The Fuchs & Lang Mfg. Co., Div. of General Printing Ink Corporation, announces that on April 20 the company's New England headquarters were moved from Cambridge to 67 Batterymarch St., in Boston. The new telephone number is LIBerty 1048.

The New England Branch Manager is Philip J. Kirby, who has had twenty-five years experience in the lithographic field and is well-known throughout the New England territory. G. E. Marsh is F & L's service manager in Boston.

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OK BLACK ARROW Trimmer Knives
A special heat treatment of the steel assures you of extra long life between grinds and a tough edge for all kinds of cutting.
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Silver Cup to Timken

A silver loving cup was recently presented to the printing department of the Timken Vocational High School for its prize-winning entry in the Eighth Annual IPI Essay Contest. The silver cup is awarded annually for the best printed

Hupp E. Otto, President, National Graphic Arts Education Association. At lower right is Ipi Cub awarded to Ray W. Patterson, jr., of Timken Vocational High School, Canton, O., for his entry in Ipi essay contest.

essay to be submitted in the IPI Essay Contest. This is the third successive year in which the Timken Vocational High School has won the cup.

The essay was written, designed, composed, printed and bound by student printer Ray W. Patterson, Jr., with Kenneth Heppler and Robert Herron assisting with presswork and binding.

Presentation of the cup was made on behalf of the sponsors at a special assembly of the entire school by Hupp E. Otto, president of the National Graphic Arts Education Association. Fred J. Hartman of NGAEA was also a speaker.

The judges for the contest include: Harry L. Gage, vice president, Mergenthaler Linotype Co., Chairman; Linwood I. Noyes, immediate past president of the American Newspaper Pub. Assoc.; Franklin Johnson, publisher of *American Exporter*; A. G. McCormick, Jr., past president of Graphic Arts Victory Committee, and Frederick B. Hasler, president of the Pan American Society and president of the New York Chamber of Commerce.

Announce New ATF Composing Room Kit

American Type Founders is currently offering printers, through its 23 branch offices, a complete kit of instructions and tools for laying out their composing rooms efficiently according to modern engineering standards. The major feature of the kit is a 12 page booklet, *The ABC of Composing Room Layout*, in which diagrams and text show step by step how to arrange the units in various types of composing rooms so that work can be routed through systematically and progressively. Several pages are devoted to plants with Monotype or line-casting machines. The kit also includes plotting charts, templates drawn to scale of most items of composing room equipment, a scaled sheet from which a printer can cut his own templates, a 5 ft. tape measure, and a precision ⅛ in. and ¼ in. scale.

A copy of the kit can be obtained by any printer with a composing room who will write to an ATF branch office.

To Publish Research Bulletin on Paper Curling

A RESEARCH bulletin on the curling of paper will be forthcoming in the near future, the Lithographic Technical Foundation has announced. According to the Foundation's research director, Robert F. Reed, the bulletin will cover the three basic causes of curling. Reel curl, which occurs in paper cut too close to the core of the reel, usually occurs in only every third, fourth, fifth, or sixth sheet in the pile, and is always against the grain of the paper. The curl which results when one side of a sheet is moistened or dried more than the other —when too much water is run on the press, for example—is always toward the drier side of the sheet, and always with the grain. The curl produced when a sheet undergoes a radical change in moisture content, even though the

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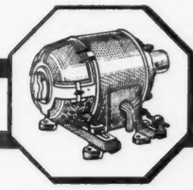

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change is uniform throughout the sheet so that both sides are affected equally, is related to the two-sided nature of paper—the difference in character between the felt side and the wire side—and tends to be with the grain.

Individually and in combination, these factors cause paper to perform antics which often seem as perplexing as they are troublesome. However, an understanding of the basic causes of curling makes such antics much less puzzling, and the forthcoming bulletin will explain how the lithographer, by proper conditioning and handling of paper, can overcome some of his press-room troubles.

BOOKS

RECEIVED

How To Handle Labor Grievances

ALL mechanical and production executives, including departmental foremen, have had experience with handling labor grievances. Sometimes plant executives "graduate" into labor spokesmen capacities for their companies. For this group of men we feel that the author has much informative material. Perhaps some of these men are not as well versed upon the subject as they might be. To these men we recommend the book *How To Handle Labor Grievances* by John A. Lapp, LL.D.

The author discusses the subject thoroughly from the standpoint that grievances do exist and are inimical to employee peace of mind to the extent that the quality of his work is affected. Since this is the case, they should be handled understandingly and in the proper manner. Proper instruments and procedures for handling of grievance cases are outlined. The foreman's part in handling grievances is well presented and to him the author gives much good advice. There is also much good advice for the employer and his chosen representative. In no instance does the author recommend coddling treatment for persons having grievances but outlines the treatment of grievances in a practical manner.

In the book, grievances of all kinds are defined; how to deal with grievances is thoroughly discussed; an outline of grievance procedures, including scope and organization of grievance procedures, and the arbitration and enforcement of grievance procedures receive considerable attention. In the chapter on "Problems of Grievance Procedures," Dr. Lapp discusses individual and group complaints and the faults of grievance procedures. In the appendix are given 22 selected grievance provisions of contracts and forms used in grievance procedures in varying industries. These examples are quite comprehensive in coverage and will be valuable to those executives who participate in grievance cases in their plants, inasmuch as they may form a basis for improving grievance procedures in future labor contracts.

The book is quite comprehensive and its ownership by all production and mechanical executives is recommended.

How To Handle Labor Grievances—By John A. Lapp, LL.D. Consists of 293 pages; size of book, 5½ in. by 8¼ in. Bound in maroon cloth, yellow stamped

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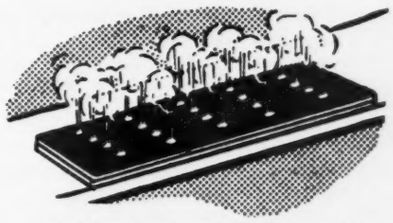

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According to announcement on May 8, Barry Shannon, publisher of the Palm Beach *Post* and the Palm Beach *Times*, Palm Beach, Fla., announced the appointment of Littleton S. Vaughn as mechanical superintendent and Wm. H. Baldwin to the foremanship of the *Times*. Mr. Vaughn, or "Link" as he is known to his newspaper associates, started his newspaper career with the Wilmington (N.C.) *Morning Star* as sports editor, later transferring to the mechanical departments, until going into business with his brother Robert, as publishers of the Penbroke (Ga.) *Enterprise*. They later disposed of the *Enterprise* and Link came to Florida, to work on the Palm Beach *Post* in 1924. The *Post* and *Times* merged in 1933 and Link continued as makeup man. He was promoted to foreman of the *Post* in 1938. Wm. H. Baldwin, better known as "Hersch," the new foreman of the *Times*, came to Florida from Illinois a year ago, where he was composing room superintendent on the Peoria *Star*, having worked up from night foreman, a job which he held for 12 years. He was one of the youngest foremen in the Illinois Mechanical conference. "Hersch" served as president of the Illinois Newspaper Mechanical Conference in 1942. He was one of the organizers and a charter member of the Peoria Club of Printing House Craftsmen, serving as president of that group in 1943. Both Vaughn and Baldwin have a host of friends in the printing industry who wish them well in their new jobs.

Andrew Irber, an employee of the St. Paul (Minn.) *Pioneer Press* and *Dispatch* for 44 years, and superintendent of the photo-engraving department, was given a testimonial dinner the latter part of April. Irber was the first staff photographer on these papers and has spent the past 40 years in the engraving department. The dinner was attended by heads of all the departments and by all members of the engraving department. He was presented with a fly rod and reel.

Lighting Modernized

(Continued from Page 72)

units. Additional 48 in., two-tubes, 40 w. fluorescent fixtures were suspended from the ceiling to supply satisfactory general lighting on the press platform.

On the lower press level, fixtures formerly used on the upper level were installed. These lights are single-tube, 100 w. fluorescent fixtures. A sufficient number were installed on each side of the press frame to provide ample light for handling the paper rolls, and in addition a single fixture was mounted within the press frame at each unit, giving almost daylight brilliance for the men loading rolls on the press.

Proper artificial lighting has given *The Chester Times* a safe, efficient and comfortable pressroom; it has been invaluable in the makeup and other sections of the composing room where the program has been completed, and it is planned to extend the use of fluorescent lighting in the ad alley and stereotype department.

Magnesium

(Continued from Page 51)

Although we speak of magnesium photo-engraving metal much as we speak of zinc and copper photo-engraving metal, actually all three are alloys of several metals. The magnesium plate available for photo-engraving is an alloy of this element plus small percentages of aluminum, zinc, calcium, copper and iron. It is an entirely different composition from flashlight powder and magnesium incendiary bombs. In sheet form, the magnesium photo-engraving metal alloy is not a serious fire hazard. However, we have not determined whether or not an accumulation of powder that might result from routing magnesium would be as harmless as the particles of copper and zinc that accumulate around a router.

A complete evaluation of magnesium for photo-engraving might properly be an early project for Photo-Engravers' Research, Inc., the organization recently launched by the Southeastern Photo-Engravers Association.

Safety Gasoline Can *Oily Waste Can*

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Oily Waste Can . . . for dangerous oily waste. Top closes automatically . . . equipped with or without foot lever opener. Ruggedly built from 24-gauge steel, double seamed.

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DON'T PUT OFF. SEND US YOUR TRIAL ORDER AT ONCE AND BE CONVINCED.

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New Address For Eagle

On April 20 the Eagle Printing Ink Co., Div. of General Printing Ink Corporation, moved its New England office from Cambridge to 67 Batterymarch St., Boston 10. The new telephone number is LIBerty 1083. Stanley A. Howell will continue as Eagle's New England Branch Manager.

PRESS MAKERS

(Continued from Page 45)

sufficient paper, to run four pages of color a day, including news pictures.

Color has been used since 1900 on newsprint stock in Hearst's *American Weekly* and in the Sunday comics. But only in the last dozen years has it been developed beyond the front page headline stage. Some half dozen metropolitan dailies have used it in editorial and advertising pages, and the Chicago *Tribune* has been able to take a news photograph in four colors in the afternoon and have it on the press by midnight.

Other Companies in Industry

Reverberations of the developing boom are being felt by other companies in the industry.

Among manufacturers of typesetting equipment, the largest, Mergenthaler Linotype Co., forsees a "long period of active demand and capacity production." The company bases this prediction on the need to replace worn-out machines in this country and those in foreign countries destroyed during the war. Its Brooklyn plant, which makes sales in 80 foreign countries, already has a "large backlog of postwar orders," and its associate company in England is said to have "an equally active program ahead."

Sales to be created by the combination of practically no production during the war and the wearing out and destruction of equipment overseas are also stressed by the Intertype Corporation, Brooklyn, which sees this situation resulting in "no surplus to speak of." Intertype has already received orders from Sweden and the Philippines. Its 1939 net sales were $3.6 million compared to Mergenthaler's $6.5 million. The third major typesetting equipment manufacturer, Lanston Monotype Machine Co., Philadelphia, had net sales of nearly $2 million in 1939 and has booked enough post-war orders for "more than a year of manufacturing to capacity," according to its president, Harvey D. Best.

The no-surplus expectation is also held by American Type Founders, manufacturer of the Kelly press, whose pre-war 1939 net sales amounted to $6.1 million. This company predicts an "enormous" market and has established a system of "civilian priority reservations." Orders already taken under this scheme will keep its production facilities busy for a year. Prospective customers put $100 down for a place on the list and the deposit is credited to the cost of the press when delivered.

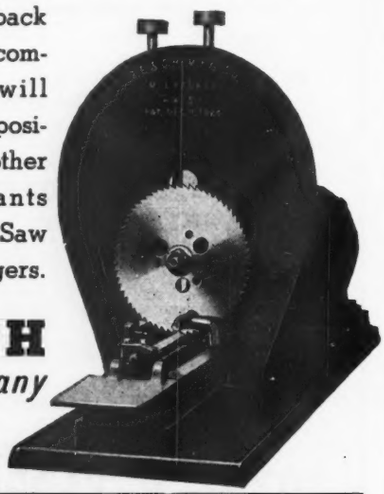
Presses are going to cost more after the war, Type Founders officials say. Materials and labor costs are up 20% to 40%.

Nearly half of Type Founders' orders are for lithographic presses, and the proponents of this type of printing say the demand for their product will nearly double in a few years after the war thus increasing their needs for equipment.

Lithography, better known as "offset," is a photographic process which reproduces type matter and illustrations by means of a press with three cylinders or rollers. Proofs (paper copies) of the type and illustrations are photographed, and the images on the resulting negatives are "etched" directly onto a thin metal sheet. This sheet is wrapped around one cylinder of the press and the images are transferred by direct contact to a second, rubber-covered offset cylinder. The offset cylinder prints on whatever material is run between it and the third cylinder. *(Continued on next page)*

TO 42 PATIENT PRINTING PLANTS

This advertisement is addressed to 42 printing plants who have placed orders for TESCH equipment and are patiently awaiting delivery. Frankly we are doing everything that can be done to facilitate filling orders for TESCH Saw Filers and Swagers. Of that you can be assured. When these back orders are completed we will again be in a position to supply other printing plants with TESCH Saw Filers and Swagers.



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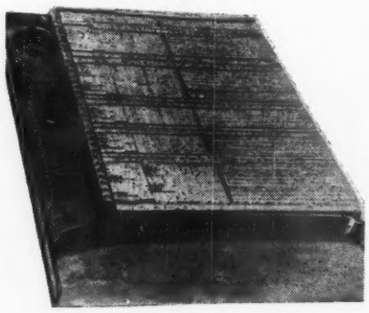

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8½ inch	12.00	17¼ inch	23.00
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8 inch		$8.00

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(*Continued from Page 93*)

"Finnegan's Wake" Comes to America

Offset has two peculiar advantages. It can be used to print on plastics, glass and metal as well as paper, and it does not require engravings (copper reproductions) for printing illustrations. For this latter reason, offset has found wide use in illustrated tests and children's books, in posters and maps, and in the reprinting of foreign edition of books. Viking Press, for instance, imported a copy of Joyce's *Finnegan's Wake* from Paris, had the pages photographed (cheaper than resetting the type) and then printed by offset. The Army has been using portable offset plants, consisting of groups of three trailers, for printing maps behind the lines.

The value of the production of the nation's 2500 lithographic shops is now estimated at $300 million annually, not counting a vast amount of work for the Government. Within a few years after the war, this figure may swell to $500 million, according to the Lithographic Technical Foundation, an industry research organization. The Foundation believes the "greatest impetus" to the industry will come from the production of promotion and packaging for new products. Additional business is seen in the export market. Here the Foundation is trying to find a canned goods label paper that some breeds of foreign cockroaches won't eat away.

Optimism on the future of offset is also held by R. V. Mitchell, chairman of Harris-Seybold-Potter Co., Cleveland, one of the largest makers of offset equipment. "There isn't any question in my mind," Mr. Mitchell says, "but that the lithographic industry has one of the greatest opportunities of any industry in the country before it today."

Harris-Seybold-Potter customers have already placed a large volume of postwar "purchase proposals," and the company sees the postwar market as one of

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WESTERN PRINTING & LITHOGRAPHING COMPANY
Racine, Wisconsin

"great magnitude." Before the war sales ran about $5 million annually and employment about 1,200.

The Lithographic Foundation has helped develop some mechanical devices for improving lithographic reproduction, but it expects no great post-war revolution in printing methods. Neither do the press and equipment manufacturers, although they admit they, too, are working on some new devices.

But it would not be impossible some time in the future, one of the printing industry's leading research men suggests, to do away with setting type altogether and to build presses which might produce commercial printing in color in six to eight hours instead of a week or more.

Plastic for Plates

Meanwhile, printers have recently discovered one short cut, the plastic plate.

Plastic reproductions of type and illustrations not only are being used in this country but are also being flown to overseas printing plants by one of the weekly news magazines and by the New York *Times* for the 12 scattered editions of its weekly news review. The advantage here is a saving in weight; a plastic plate is only one-eighth as heavy as a metal one.

Equally important is the saving in manufacturing time, particularly in advertising in which the leading developers of plastic plates, the Bakelite Corporation, a unit of Union Carbide and Carbon Corp., eventually expects to displace the common electrotype (a metal reproduction of type and pictures made by an electrical process). It is a two/or three-hour job to make the metal plate; the first plastic reproduction can be made in 20 minutes and subsequent ones in even less time.

About 70% of plastic now used for printing plates is going to the Government. These plates have given as many as 300,000 impressions, service equal to that of the best electrotypes. The plastic plate, manufacturers explain, is permanent, can be stored indefinitely for reprintings. Unlike metal, it will not corrode and because of comparative lightness, they say, it is easy to store.

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RE-SOLICITATION is the keynote for a victorious "mop up" in the Mighty 7th War Loan. Bond rallies plus continuous competition between departments help to keep Bond subscriptions on a quota-topping climb. Strategic poster displays . . . showings of "Mr. & Mrs. America," the Treasury film . . . distribution of the War Finance Booklet, "How To Get There," and the handy Bond-holding envelopes play an important part. But, above all else, arrange to have every employee asked *once more*—and personally urged *once more*—to meet his personal quota in the Mighty 7th!

The Payroll Savings Plan is the mainstay of every War Loan—meeting your plant quota is vital to the success of the 7th! Remember we have to make two drives in 1945 do the work of three last year. Put on an intensive "mop up" final to help mop up the Japs, cut the tentacles of inflation—and lay the foundation of security.

The Treasury Department acknowledges with appreciation the publication of this message by

Printing Equipment Engineer

★ *This is an official U. S. Treasury advertisement prepared under the auspices of Treasury Department and War Advertising Council* ★

HOW TO DODGE A ROBOT BOM

THERE's only one way. *Don't let it be launched*....Literally, there is only one way to prevent robot bombs from blowing to bits the world we want for our children—and that's to fight hard for a peace that will *last*.

Who are the leaders in this great fight? Editors, publishers, printers... using weapons forged of millions of lines of type....Here are some vital things that men who fight with the printed word are doing *right now*...

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...informing Americans about the specific proposals for a peace organization.

...urging Americans to *support* whatever form of international cooperation they think is best.

...warning Americans not to let the whole thing fall through just because some people don't think some parts of it are perfect. We'll have to work out many of the problems as we go along. What we *must* have now is a united *determination* for peace.

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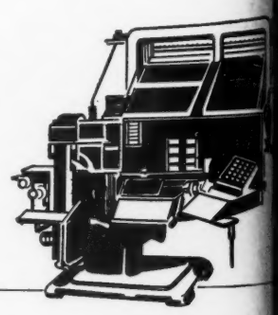

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